

EXECUTIVE SUMMARY

Vessel Traffic Service (VTS) Houston/Galveston was established in 1975 under the authority of the Ports and Waterways Safety Act of 1972 to improve maritime safety and efficiency in the Houston-Galveston-Texas City port complex, the largest petrochemical port in the United States. Acting as an information clearinghouse, VTS provides accurate, relevant, and timely information to mariners, port authorities, facility operators, and local, state, and federal agencies. By collecting and sharing this information, VTS supports the mariner's independent decision-making and facilitates the prevention of vessel collisions, allisions, and groundings; and consequently, reduces the potential for loss of lives and property, as well as the environmental damage associated with these incidents. VTS information also enables waterway managers, mariners, and advisory groups to better understand the processes at work in the port's complex waterway system and to make improvements to those processes.

VTS exercises a continuum of control, which includes both passive and proactive measures, to instill good order and predictability on the waterway. Our strategy is to match risk against this continuum and select the appropriate measure to mitigate risk and improve efficiency. The initial level includes traditional passive navigation tools such as Traffic Separation Schemes and Restricted Navigation Areas. If the expected reduction in risk or desired increase in efficiency is not attained through these measures, VTS will utilize more proactive levels of control which add a level of human interaction to the management of vessel traffic within a waterway.

Of course, ultimate responsibility for the safe navigation of a vessel remains with the master or person in charge. Unless circumstances indicate otherwise, VTS presumes mariners are competent and respects the masters' responsibility and authority. Although VTS is empowered to direct vessel movements, it does so only in unusual circumstances. *Figure ES-1* is a tabular summary of the VTS vision statement, mission, and business goals.

Figure ES-1

<u>MISSION</u>	<u>VISION</u>
To facilitate safe efficient waterborne commerce. Specifically, VTS Houston/Galveston exists to prevent groundings, allisions, and collisions by sharing information and implementing appropriate traffic management measures.	Forward Looking, Focused on Prevention.
<u>BUSINESS GOALS</u>	
In support of the unit's mission, VTS Houston/Galveston personnel will:	
<ul style="list-style-type: none">▪ Provide accurate, timely, and useful information to the maritime industry.▪ Identify areas of improvement through partnerships with waterways managers.▪ Maintain a high level of expertise through annual qualification programs and professional development opportunities.▪ Provide highly trained personnel capable and motivated to meet customer requirements and establish a baseline period for qualification.▪ Maintain strong public relations and Partners In Education (PIE) programs.▪ Prevent emergency situations through education and intervention.▪ Mitigate the impact of collisions, groundings, and allisions through the implementation of contingency plans, policies, and procedures.▪ Ensure operational readiness by controlling down time of equipment	

VTS Houston/Galveston is located in Galena Park, TX, and is under the operational control of the Captain of the Port (COTP) Houston-Galveston. The Vessel Traffic Service Area (VTSA) covers a narrow, 54-mile long waterway running from the Galveston sea buoy to the Port of Houston turning basin, including a portion of the Intracoastal Waterway, as depicted in red in *Figure ES-2*. These waterways provide access to the harbors of Galveston, Texas City, Bayport, Barbours Cut and connecting waterways including the San Jacinto River, Old River, and Greens Bayou. Coordinating an ever-increasing traffic load while ensuring safe navigation on the narrow waterway is a demanding job, requiring dedicated personnel and superior equipment. VTS remote sensors, consisting of VHF-FM transceivers, radar, and closed-circuit television cameras are used to facilitate the monitoring of vessel traffic. These sites are strategically located along the waterway (Link *Figure ES-2*). Remote site information is passed to the Vessel Traffic Center (VTC) via a network of high capacity telephone circuits.

Figure ES-2



The VTS work force consists of 52 personnel: 8 active duty officers, 10 civilians, 28 enlisted members, 3 reservists, and 3 contract employees as depicted in *Figure ES-3*.

VTS Houston/Galveston's AFC-30 operating budget for FY01 was \$69,000. Our key customer groups are Vessel Movement Reporting System (VMRS) users, non-VMRS users, local industry and intermodal agencies, government agencies, and other Coast Guard commands as depicted in *Figure 3.1-1*. Our customers demand real-time information regarding the state of the waterway, including vessel locations, vessel names and descriptions, aids to navigation (AtoN) status, channel restrictions, current and predicted weather information, tides and currents, vessel arrival information and applicable federal regulations.

VTS has a unique customer/supplier chain. At times the customer is also the supplier because the customer is both a user and provider of information. For instance, the lone towboat in the middle of Galveston Bay may be the source of information for an AtoN outage, which can be passed along to AtoN response units and other mariners. As can be seen, the accuracy of information that VTS provides depends largely on mariners' participation -VTS traffic advisories can be no more accurate than the reports given to VTS and the ability of VTS equipment to verify those reports. This relationship requires constant customer alignment through communications with the mariners.

The key to a quality operation and mariner satisfaction lies primarily in the ability and performance of the VTS traffic control watchstander. Proper indoctrination and training of new members is critical to successful operations. VTS has an advantage over some CG units in that it enjoys an average of twelve years job experience among civilian employees that comprise nearly one-fourth of the crew (Link 1.1a). In addition, a significant percentage of the enlisted workforce are completing at least their second tour at VTS Houston and consequentially possess a greater local knowledge of the VTSA and are more skilled professionally.

Marine accidents in other ports in recent years have underscored, often dramatically, the need for continuously improving navigation safety on our nation's waterways. VTS Houston's organization is synergistically structured to achieve this objective. Our four watch sections, Alpha through Delta, along with our support staff, constitute our primary Natural Working Groups (Link *Figure 1.1-1*). Our quality policy grows from our mission statement and is outlined in our Standard Operating Procedures (SOP) manual. Overall, the SOP provides performance guidelines for all personnel at the unit and includes all training requirements. Quality training is the heart of our human

resources development program. As a result, we have constantly exceeded the district's requirements regarding TQM training.

Table ES-4 outlines other General Business Factors that are unique to VTS Houston/Galveston.

VTS ORGANIZATION CHART

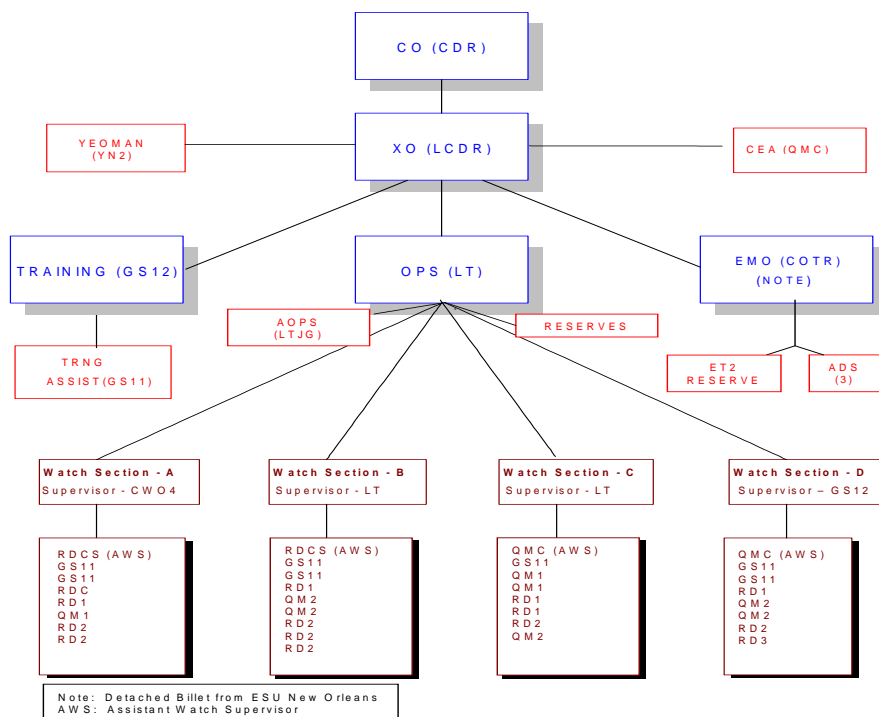


Figure ES-3

Challenges and Successes

The total volume of domestic and international marine trade is expected to more than double over the next 20 years. The number of recreational waterway users is also expected to grow by over 65 percent to more than 130 million annually in the same period.

The physical infrastructure and information systems that comprises our Marine Transportation System (MTS) must adapt to these changing needs. The VTS plays a vital role in the emerging MTS. We anticipate a significant traffic increase resulting from several long-term projects, including completion of the multi-year deepening and widening project (Spring 2004), and the construction of two new container terminals. These projects will also produce a change in the type of vessels transiting the VTSA by enabling larger container ships, deep draft tankers, and larger cruise ships to access the port. We have started to implement the latest technology to handle this increased traffic, including use of a computerized tracking system (CGVTS), and to implement transponders to enable the port (and this unit) to keep pace with the rising volume of ship traffic without a need for increased resources.

Table ES-4

CRITICAL SUCCESS FACTORS

<ul style="list-style-type: none"> • Trained Crew • Adequate Equipment • Accurate Reports 	<ul style="list-style-type: none"> • Manning • Appropriate Funding • Skilled technical support
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KEY BUSINESS/SUPPORT PROCESSES

BUSINESS (Link 6.1)	SUPPORT (Link 6.2)
<ul style="list-style-type: none"> • Vessel Traffic Management • Waterways Operations • Waterways Management • Emergency Response 	<ul style="list-style-type: none"> • Qualified Personnel • Public Relations • Technical Support • Administrative Support

KEY SUPPLIERS (Link 6.3)

SUPPLIER	SERVICE/PRODUCT SUPPLIED
<ul style="list-style-type: none"> • G-MWV • COTP Houston/Galveston • MSU Galveston • Group Galveston • MLC Lant • ISC/ESU New Orleans, C2CEN • Vessel Movement Reporting System (VMRS) Users • Non-VMRS Users 	<ul style="list-style-type: none"> • Personnel / Training Support • COTP Authority / Support • ATON Discrepancy / SAR / LE Response • Funding / Maintenance Support • Technical Support • Information regarding waterway • Information regarding waterway

Recent successes include: implementing CGVTS, adding a third VTS working frequency for receiving initial check-in reports, establishing a customer contact/request information form on the VTS webpage, resolving channel video monitoring limitations through upgrades to CCTV camera equipment, and reducing recurring maintenance costs through modernization of all VTS equipment. On going projects of particular note include: office space renovation and remodeling to maximize the utility of assigned spaces and resolve long-standing material and safety discrepancies; waterways and management initiatives, such as continuous data collecting and analyzing of our VTSA Port Risk Index; the oversight of a multi-year deepening and widening project of the Houston Ship Channel (HSC); the ongoing coordination of 7 separate dredging contracts, multiple pipeline removal projects within the ship channel; numerous electrical power-line replacement projects over the ship channel; and assumption of all regional waterway management project oversight responsibilities. Each of these projects were skillfully managed so that there was a minimum disruption to vessel traffic on the HSC.

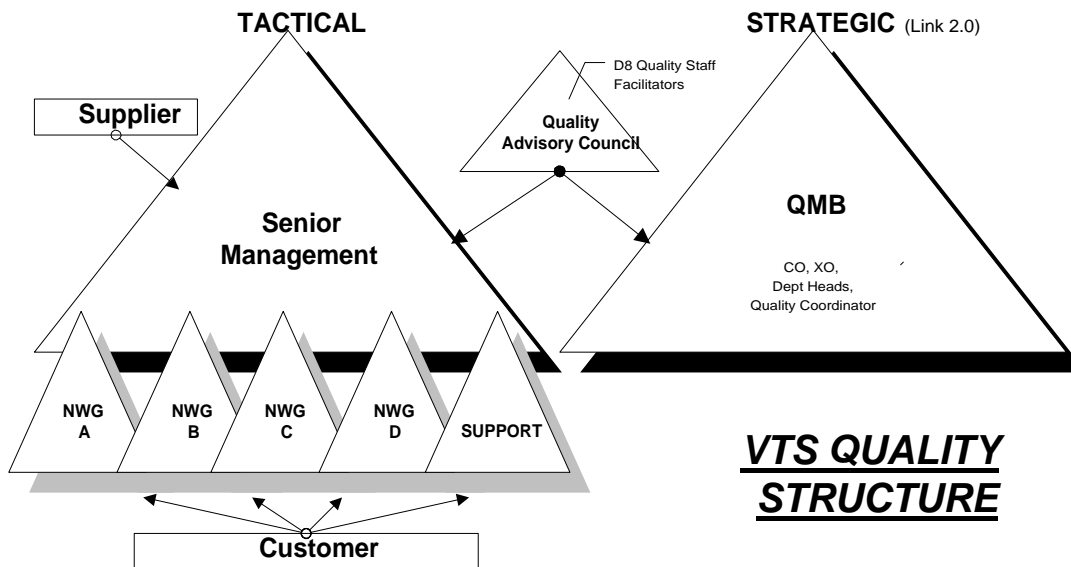
1.0 LEADERSHIP

1.1 Organizational Leadership

a. Senior Leadership Direction.

(1) Senior management consists of the Commanding Officer (CO), Executive Officer (XO), Department Heads, and the Command Senior Chief (CSC). Mid-level management consists of Watch Supervisors, and lower-level managers exist in VTS's watch sections as assistant watch supervisors, GS-11's, and leading petty officers (Link Figure ES-3). Senior leaders are well grounded in the values and mission of Houston Traffic by thorough indoctrination, use of a comprehensive guide in the form of the unit Standard Operating Procedures (SOP), and previous operational experience. The CO leads the quality process by setting a strategic vision consistent with the CG Performance Plan, program direction from the Office of Vessel Traffic Management (G-MWV), and the Eighth District Tactical Performance Plan and operational objectives of the Captain of the Port. The CO heads the Quality Management Board (QMB) which coordinates the quality process. The QMB consists of the CO, XO, Operations Officer (OPS), Training Coordinator (TC), Department Heads, and the Unit Quality Coordinator. This group sets organizational direction and is responsible for assigning and defining the structure of Natural Work Groups (NWGs) and Quality Action Teams (QATs). Furthermore, the QMB prescribes the necessary training programs (Link 5.2) and establishes performance expectations through the SOP which provide guidance to all crew members. This ensures all new members are indoctrinated in the unit's quality effort and also presents it in a form familiar to all members of the Coast Guard. Since many operational initiatives and administrative changes have resulted from discussions at unit QMB meetings the Unit Quality Coordinator (UQC) is particularly proactive in sharing QMB info with the crew. The agenda and minutes from each QMB meeting are placed in a public folder that can be accessed by all personnel. Additionally, there is a link in each Plan of the Week to the minutes corresponding to the last QMB meeting. Figure 1.1-1 shows the VTS quality structure.

Figure 1.1-1 - VTS Houston/Galveston Quality Structure



Senior management communicates and reinforces values by walking the deckplates, which complements our formal methods. A major focus of the leadership is to maintain an open climate where all contributions and team skills are highly valued and recognized. The SOP plays an important role in the entire training program (Link 5.2), which is based on leadership's vision and direction, initiated through a keen focus on customer requirements (Link 3.0). This aggressive training program implements management's commitment to learning and customer focus.

Senior management realizes that while crew members contribute greatly to each VTS/Customer relationship, there must be some action on their part to ensure the relationship is mutually advantageous. Therefore, senior leaders are very active in dealing with customers. Participating in the ride program, leading the Houston/Galveston Navigation Safety Advisory committee (HOGANSAC) meetings, and working closely with the Houston and Galveston Pilot Associations on channel issues are several examples of ways that senior leaders reinforce positive relationships with our customers, while simultaneously demonstrating to the crew that they are personally committed to the success of the unit.

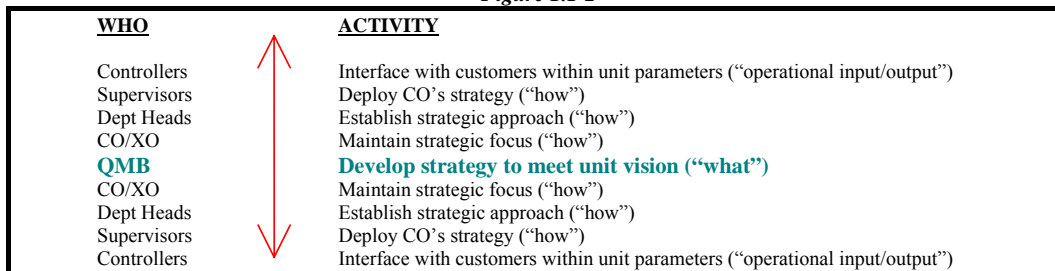
(2) Maintaining the momentum of the unit's positive direction is a direct result of leadership's involvement in day-to-day operations. Daily briefs, open-door policies, and the physical layout of the unit create an environment of "working together" as a team. These interactions are all based on two-way communication. The junior members pass event summaries and the command passes updates on command, program, and CG initiatives. The CO requires 8 o'clock reports, morning and night, to review operational issues and provide short- and long-term tasking in accordance with CG family of plans. It also allows him to provide guidance and conduct timely, effective review of major or unusual events.

Watch personnel and command cadre are empowered to initiate organizational innovations. Their involvement has resulted in the modification of vessel check-in procedures, reconfiguration of the VTC and redesign of unit administrative spaces. This participatory environment is enhanced through an active personal and team awards program. The leadership system takes full advantage of the civilian and active duty personnel ratio to further enhance the values of the unit. A steady relationship with long-term civilian employees providing expertise in the local geography and customer base minimizes the detrimental effects of losing trained personnel due to military transfers. Several civilian members have been recognized through cash awards from the command for their initiative in this regard.

Our customer service focus is made part of daily operations through an active industry outreach program. To better understand the needs of the mariner and better assess the VTC's performance, the unit employs a ride program, which focuses on customer needs and solicits their feedback on VTC processes. Each quarter VTS personnel must make one trip aboard a tug, ship, or passenger vessel. Each trip is followed by a "ride report" to the CO. Although the reports are based on soft measures, the command analyzes the results to initiate process improvements. User comments reflected in the reports are analyzed quantitatively in four categories (clarity of VTS communications, reliability of area aids to navigation, accuracy and usefulness of VTS traffic advisory, and overall assessment of VTS performance). Results are compiled quarterly and a trend line analysis conducted to gauge organizational performance from the user's perspective. Reports are an additional way that the crew is empowered to initiate the process improvement cycle. Each report is in effect "silent brainstorming," and recognizes the expertise of front-line personnel. The ride program is a dynamic process that can be modified to meet changing mission needs and goals (Link 3.1).

Figure 1.1-2 describes a cyclical process of the roles and relationships in place at this VTS. We have adapted the traditional vertical military structure into a cyclical system that allows the "bottom" (i.e., the controllers) to have critical customer influence and input into the decisions of leadership (Link 2.0). While improving on "what" needs to be done, this model involves mid- and lower-management levels in developing and refining unit operations.

Figure 1.1-2



Our organizational Vision, Mission, and Business Goals (Link *Figure ES-1*) guide the unit's quality initiatives. These unit vision and mission statements are in direct alignment with our program manager's (G-MWV) goal and mission statements (reduce collisions, allisions and groundings and reduce impediments to ports and waterways accessibility). Similarly, our unit processes and business goals support the Eighth District's Tactical Performance Plan (TPP) (specifically, Performance Goal #2 for Waterways Management under the Strategic Goal of Mobility). These goals are an integral part of the initial training process for all crew members (Link 5.2). Our senior leaders

seek future opportunities for the organization by developing partnerships through routine meetings with local waterways stakeholders (Link 1.2) such as participation in the Congressionally chartered HOGANSAC. .

b. Organizational Performance Review.

(1) Leadership conducts annual systems checks by initiating quality climate assessments via the District 8 QPC, who visits the unit to conduct interviews with a random sample of the crew and command. The QPC also distributes a survey to the unit prior to the visit and collects, tabulates, and summarizes the results of the survey. The final day of the visit consists of a command outbrief, during which the QPC presents the results of the survey and interview sessions. These highlight strengths as well as areas that need dedicated attention. The latest performance review was a climate assessment survey conducted from 29 – 31 October 01.

Figure 1.1-3 compares the results of that survey with results from QPC surveys of previous years. The October 01 results show an increase in two of the four categories over the previous surveys. This can be attributed to better maintenance support and crew satisfaction with new equipment.

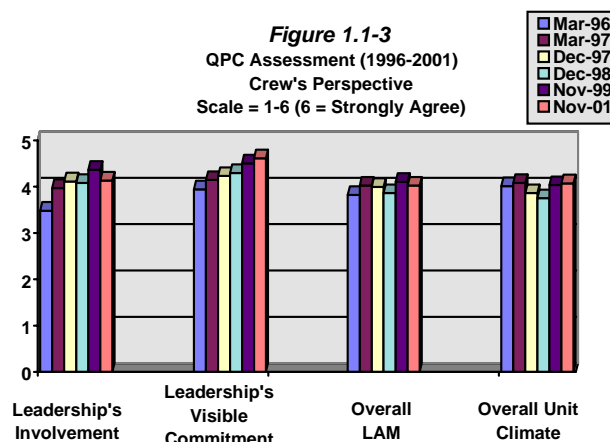
Performance climate surveys are complemented by annual civil rights and human relations surveys. In 2001 the unit also initiated a fourth climate assessment survey based on the Gallup Organization's book "First, Break All the Rules." Areas where the numerical average is below a 3.5 (out of a total of 5) are labeled as priority items and evaluated by the QMB. The testing of a proposed watch rotation was a direct output of this Job Satisfaction Survey.

(2) The QMB reviews the results of all surveys to determine if there are any key items which need to be addressed during our strategic development process (Link 2.1). These items are either placed on the agenda for a future QMB meeting or forwarded to a NWG or QAT for analysis. For example, the QMB recently reviewed results from the October 2001 climate assessment survey. Two areas of weakness were identified by the survey, concerning the dissemination of information throughout the command and unit cohesiveness (between watch sections). The QMB analyzed these issues and decided to use QPC-facilitated focus groups to identify possible remedies.

(3) Senior leaders analyze the survey results at monthly QMB meetings. Senior leaders also use watchstander feedback, gathered either directly by personal meetings or indirectly in meetings with the Watch Supervisors/OPS, for the same purpose. For example, Figure 1.1-3 showed a continuous increase in the crew's perception of Leadership's Visible Commitment and the Overall Unit Climate. Verbal and written feedback gathered by the District QPC and our own QMB confirmed that crewmembers felt the senior leaders were more visibly committed to unit process improvements. These review findings and (direct and second-hand) employee feedback have helped leadership target their efforts and enhance their management effectiveness by identifying specific areas of operational (met industry concerns through management of dredge notices), administrative (watch scheduling), and business support (equipment performance) growth opportunities. The use of facilitated focus groups will further refine implementation of these issues.

One example of feedback we utilized to improve a VTS procedure was from our own unit JSS. The proposal was to change the watch rotation to a two-day on, two-day off, sliding weekend schedule. A detailed action plan was utilized to formulate a sample period of 1 month to enable the crew to test the proposed schedule. After the sample period a second survey was utilized to gain further insight and feedback. The crew voted not to change rotations, but were thankful they were given the opportunity to see for themselves how the new rotation would effect them.

Figure 1.1-3
QPC Assessment (1996-2001)
Crew's Perspective
Scale = 1-6 (6 = Strongly Agree)



1.2 Organization Responsibility and Citizenship

a. Responsibilities to the Public

- (1) The primary mission of VTS Houston/Galveston is to facilitate safe, efficient waterborne commerce

(Link *Figure ES-1*). This is only possible with the cooperation of all customers, who are required to abide by all CFRs, Rules of the Road, COTP orders and other federal regulations that apply to them.

The devastation Tropical Storm Allison brought to the Houston area and the impact on the HSC of the resulting flood illustrates the impact VTS operations have on the maritime community we serve and the public who depend upon that community for their livelihood and well-being. That night several incidents were happening simultaneously throughout the Houston/Galveston area. For example the controller was handling multiple calls when strong currents, high waters, and heavy winds caused the unmanned M/V MOUNT WASHINGTON to part her mooring lines and drift off dock into the channel. At the same time the M/V TZINI parted her mooring lines and was forced off the dock by extreme current. Subsequently 34 barges broke loose from their moorings upstream of the M/V TZINI and wedged themselves against the ship, blocking completely the mouth of Greens Bayou, a major tributary of the HSC. The controller had to assess the situation and determine the risks associated with the severe weather, which were numerous. There was the immediate risk to the crewmembers of the TZINI, as well as a risk to any other traffic in the upper bayou area for transiting safely through the strong current and severe weather. The controller had to relay this information to the Watch Supervisor, who was responsible for coordinating tug response, and notifications to any traffic and facilities in the area. In addition, the controller had to trust the position reports he had received from the users to be accurate due to the fact the cameras were either inoperable or the controller could not see the channel due to the heavy rain. Thus, he was able to determine which users were closest to the TZINI and MOUNT WASHINGTON and who needed to be notified first. The response to the unusual event demanded the cooperation of numerous harbor tugs and the complete closure of the upper bayou area of the HSC for all vessels, which created a significant financial negative impact to the community due to multiple delayed transits over two full days.

However, our response during those two days positively affected area industry through the combined efforts of VTS and our stakeholders. For example, we designed and implemented new strategies that we can apply to future incidents involving high water and/or large amounts of delayed traffic. A few examples were: evaluating vessel concentrations and designing a prioritized vessel movement list based on facility shortfalls of product, and cooperating with area towing dispatchers to facilitate what tows/barges should be allowed to transit first. Overall, the numerous lessons learned helped to develop channel action plan to handle future scenarios.

In addition to the operational impacts of VTS actions the unit has a strong customer service focus that assesses the impact of the unit's service and operations. VTS focuses its efforts in this area on organizations that are mission-related customers. We develop partnerships through routine meetings with industry representatives, governmental agencies, and environmental entities. Through systematic, long-term commitment, VTS Houston/Galveston has become a respected and reliable partner in the maritime community, helping to prevent incidents and environmental emergencies as well as mitigate the impact of specific events. Our partners in this arena are either VMRS users or those associated with VMRS users. This partnership has evolved from work with a few local mariners into the CO's leadership role in HOGANSAC, which relies heavily on statistical information provided by VTS to assist the committee in identifying navigational safety and waterways management issues. Involvement with entities such as HOGANSAC overlaps with customer focus (Link 3.1), and is reflected and evaluated in customer satisfaction measures (Link 3.2). Our annual "State of the Waterway" address to the committee provides insight and publicly displays the Coast Guard's commitment to enhancing navigation safety.

One current project and example of how our efforts affect our customer and society is the multi-agency bridge allision working group. Critically, the group has identified a need for aircraft sensors to detect aircrafts that are higher than reported and if left undetected would cause a vessel to allide with a bridge. This will not only increase the safety of maritime transportation but also protect other intermodal forms of transportation that use the bridges to cross over the HSC.

(2) Through our strong commitment to safety, VTS Houston/Galveston is a vital part of the maritime community. Our involvement has given us insight into user concerns and the chance to adjust services and operations to meet evolving navigation safety needs. We see how our action or inaction affects the maritime industry, the Houston metropolitan area, the state of Texas, and certain sectors of the national economy. For example, channel mishaps that block transits affect commodity prices, and other major/regional/local financial interests at an estimated two million dollar loss per 24 hour delay. VTS Houston/Galveston is always assessing how future operations will affect the public.

Current VTS operations that look into processes and procedures to produce more effective future services to the public/customers are: 1) informal incident reviews of channel incidents to identify VTS weaknesses or areas for improvement, 2) affirmative traffic management after long-term channel closures or incidents, and 3) the Frequency Congestion Working Group which consisted of VTS personnel, industry representatives (including members from the Houston and Galveston/Texas City pilot associations, Kirby Inland Marine, Coastal Towing, and Buffalo

Marine) and other members of the maritime community. The Frequency Congestion Working Group conducted maritime surveys which clearly reflected that the current VTS operating frequencies were nearing the point of impairing VTS efforts to maintain navigational safety. The group concluded that an additional VTS voice frequency was necessary. With scarce resources threatening implementation of this initiative, the VTS optimized use of existing communications equipment and sites to successfully transition, at no cost, to use of the third frequency throughout the VTS area on 18 April 2001. Feedback from the maritime community was, and continues to be, universally favorable. A sizable reduction in “wait times” for users to contact the VTS and receive reports has been achieved. In addition, the third operating frequency has enhanced the timeliness and accuracy of navigation safety information provided through the unit.

(3) VTS Houston/Galveston is first and foremost an information center and rarely has a need to direct the activities of a particular vessel. When a situation arises where a vessel is not operating in accordance with the CFRs, Rules of the Road, or any other applicable federal or COTP regulations, VTS will notify the MSO or MSU Command Duty Officer and recommend the appropriate action. (In the event of an emergency situation, however, we immediately implement all necessary measures to ensure the safety of all vessels in the area.) We ensure the waterways are safe for all transits and do not give any preference to one particular user group over another.

a. Support of Key Communities.

The second prong of our approach to community involvement has a subsidiary benefit that strengthens the first prong. Senior leadership identifies key communities as those directly adjacent to the Houston Ship Channel whose citizens are impacted by its activities, as well as all Coast Guard personnel and their dependents. Other examples of key communities are stakeholders, professional associations (Federal Executive Board), local schools. We recently worked with other local CG units and local planning groups in a combined Regional Hurricane Planning group which included preparing a hurricane awareness booklet that was distributed to all CG dependents in the Houston and Galveston area. These booklets provided guidance in preparing for the upcoming hurricane season, including recommended actions to take if a hurricane is approaching the area and evacuation routes.

VTS Houston/Galveston takes the opportunity to tell the VTS and CG story to a broad spectrum of the population in these key communities, which greatly enhances community relations and aligns VTS with CG policies on community outreach. Senior, mid-level, and lower-level leadership all participate in these initiatives. We have developed a world class community outreach program. All of our watchstanders are PQS-qualified as “tour guides.” The unit also solicits feedback on tours by periodically inviting a D8 PAO to the unit to analyze and critique our tours. Our community outreach accomplishments and statistics include:

- An average of 60% participation among unit personnel in our outreach program (Both industry and education) (Many of the Senior Leadership were deeply involved in industry groups such as the Houston Electronic Navigation Subcommittee, HOGANSAC Mooring Safety Subcommittee, Cruise Ship Evacuation Exercise Team, Regional Hurricane Planning Group, Regional Maritime Security Planning Group, Interagency Coordination Team for the Deepening an Widening project, and the Dredge Safety Committee).
 - Monthly average of 6 tours to general public and local youth groups, accommodating 345 visitors annually
 - Extensive community outreach initiatives by individual crew members including involvement with the regional branch of United States Swimming, local affiliates of the Boy Scouts of America and Big Brothers/Big Sisters and local community-service groups such as a merchant seaman’s center, an environmental restoration and education organization, and an animal recovery/rehabilitation shelter.
 - Support of the Combined Federal Campaign through the loaned executive program with a record setting year in 2001 for campaign contributions*
 - 200+ students reached and 1 hour a week average dedicated to PIE over the past 2 years**
 - 8 crewmembers participated in Project Apple *substitute teaching* for 35 – 50 children.***
- * VTS annually provides an officer to work as a loaned executive during the CFC campaign, which assists CFC by keeping the operating expenses low so a greater percentage of the contributions will benefit the needy. The VTS representative manages numerous accounts for military units and federal agencies, requiring visits and speaking appearances, which are often, are the first exposure to the Coast Guard for these units and agencies.
- **Hours and students reached reflect crews involvement with Project Apple, JROTC program, and conducting tours at VTS.
- *** Project Apple is a program established to provide the HISD with personnel to substitute teach at no cost to the school district. VTS personnel volunteer for the program and are given time off during the day to participate in it. This program allows the regular teaching staff to obtain specialized training in recognizing learning disabilities such as dyslexia and gives the children an initial exposure to the Coast Guard and its dedicated people.

2.0 STRATEGY PLANNING

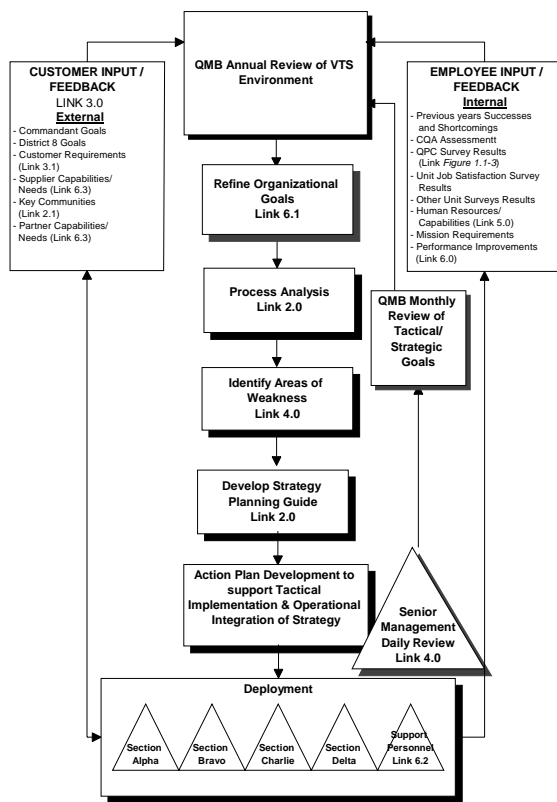
2.1 Strategy Development

a. Strategy Development Process.

(1) The strategic planning process for VTS Houston/Galveston is outlined in *Figure 2.1-1*. VTS

Houston/Galveston recognizes the importance of aligning work processes with the organization's strategic direction. The primary focus for VTS Houston/Galveston is the Commandant's Strategic Goal for Mobility, outlined in the FY 1999 Coast Guard Performance Plan: "Facilitate maritime commerce and eliminate interruptions and impediments to the economical movement of goods and people, while maximizing recreational access to and enjoyment of the water." This Strategic Goal is restated in the Eighth District Tactical Performance Plan (TPP). To more closely align the VTS Strategic Plan with these plans, the QMB holds an annual offsite session to review and update our strategic planning process and set our future direction through a systematic process that links mission, performance improvement, and key process measurements.

Figure 2.1-1 – Strategic Development Process



The drivers for our strategy and strategic goals are both external and internal and include mission requirements, unit resources, customer/supplier needs, and higher direction from Commandant and the District Commander. Strategic planning remains a continuous process, even though the operational mission remains the same, due to a constant re-alignment of the users and their characteristics. The users are increasing and becoming more diverse, requiring us to anticipate these changes and look ahead for ways to function more efficiently in order to continue to provide the necessary services to them. The primary means to achieve this efficiency are training, technological advances such as AIS and operational efficiencies (Link 2.2).

Our annual review is a multi-step process. The QMB first refines our organizational goals as displayed in *Figure ES-1* by analyzing VTS's position in our competitive and mission-related environment. The next step is to modify our existing Balanced Scorecard to interlink the goals and objectives with our Strategy Development Process. We do this by redefining existing measures and where necessary creating new measures that enable us to extract and analyze data in an effort to evaluate our goals and highlight potential weaknesses and strengths. All of our measures or dashboard indicators can be

viewed in Figure 4.1-1. Finally, after we employ the measures and analyze the resulting data we identify areas that need further process analysis. Through analysis of existing processes and results the Senior Leadership determines the need for the establishment of Working Groups to evaluate and develop Strategy Planning Guides or identify and implement potential solutions to specific areas of weakness. Examples of these groups are the Bridge Allison Working Group (a multi-agency taskforce) established after a major highway bridge was damaged by a passing vessel, AtoN Knockdown Working Group (public-sector/private-sector effort) effort focusing on minimizing CG

response costs resulting from AtoN discrepancies by encouraging users to self report AtoN allisions, and the Frequency Congestion Working Group developed from an analysis of ride reports which indicated frequency congestion was a significant problem for the majority of system users.

The Frequency Congestion Working Group exemplifies the relationship between our Strategic Development Process (Link *Figure 2.1-1*) and our Balanced Scorecard (Link *Figure 4.1-1*) and the unit goal of “Delivering Quality Services to Meet Customer Goals.” After numerous ride reports noted ‘a substantial amount of frequency congestion on both of our designated frequencies’ the working group action team was formed. The work group began by conducting a workload analysis of a controller’s airtime. The group collected data on the amount of time a controller spent entering a vessel into the system, giving traffic advisories and exiting a participant from the system. This analysis revealed that 23% of a controllers time was spent on Sail Plans (i.e. initially checking in a user for the first time). The Working Group then worked to identify possible solutions to enhance efficient traffic management, maximize controller’s ability to give advisories, and minimize use of air time. Eventually, a third frequency was implemented. That frequency is used solely for receiving reports from vessels initially entering the VTSA. This has significantly enhanced unit operations by allowing controllers to concentrate on traffic advisories and channel management issues. Thus far, the majority of customer input we have received supports the a 3rd frequency.

(2) As outlined in *Figure 2.1-1*, our most effective data and information is received by our customers/suppliers/stakeholders as input/feedback through daily operations, and may be obtained over the radio by the watch sections or directly into the QMB through outreach programs or various surveys, i.e. frequency congestion surveys (Link 1.2.a). This input and our future technological equipment advances (AIS, CCTV advancement, new radio ZETRON interface equipment) will only assist us in completing our mission (Link *ES*) and further assist us in identifying potential customer/societal risks in the port’s waterways. In addition, the excellent quality results of our own action plans and process analysis’ are a direct reflection of our utilization of our own personnel in the focus and working groups. VTS Houston/Galveston personnel take pride in their work and have a strong respect for the users in the VTSA. They also have a strong commitment to perfection in preventing collisions, allisions and groundings and also mitigating the impact of the same.

Our operational commitment and capabilities were clearly described once again in our frequency congestion working group efforts (Link 1.2). Through the multi-agency group’s efforts a potential operational area of weakness was identified, analyzed, resolved with an action plan and integrated into the VTS operations successfully with the help of many industrial and maritime cooperation. Thus, our suppliers/users were able to help us resolve a critical issue that benefited the unit, maritime industry, public, and themselves

b. Strategic Objectives

(1) Our customers have a requirement (Link 3.0): the prevention of collisions, allisions, and groundings. COTP satisfies this requirement by utilizing VTS Houston/Galveston along with many other resources. We must adapt to an increasingly complex traffic environment in the coming years, with an increase in both the quantity and types of customer segments. To stay competitive we take financial and technological risks, specifically, upgrading surveillance equipment, migrating to electronic computer vessel tracking, and retraining our controllers to adapt to the technology. *Figure 2.1-2* displays our strategic goals.

Our strategic goals are set by the QMB (Link *Figure 2.1-1*). The significant factors considered during the planning process include supplier/partner needs, human resource needs, and societal concerns. However, the most important factors have been determined by the QMB to be operational capabilities/needs, customer needs/expectations, and new technology. This results from the relative importance of those factors in fulfilling VTS’s mission of facilitating safe, efficient waterborne commerce. VTS must have the proper equipment (operational needs/new technology) to keep up with increasingly larger and more diverse customer groups (customer needs/expectations) (Link *ES – Challenges and Successes*).

(2) VTS Houston/Galveston QMB has designed our strategic objectives to specifically address and deal with our future challenges measuring present and future user/stakeholder requirements (Link *Figure 2.2-1*). Further, we have undertaken an effort to evaluate supplier (such as the maintenance contractor) capabilities to ensure those resources support the unit’s operational requirements. For example, in order to meet our objective of 100% contractual response & maintenance requirement of all new/old equipment the (EMO) must review every ECR and mark whether the response and correction to the casualty met contractual requirements. If all requirements were met then we have effectively maximized equipment utility, permitting controllers to effectively verify, organize, and disseminate an accurate traffic advisory to users. Accurate and timely traffic advisories are critical to the safety of the port. Equipment efficiency is thus directly linked to our future challenge of handling the increasing volume of domestic and international marine trade.

Figure 2.1-2 – Key Strategic Objectives

KEY STRATEGIC GOALS	ELEMENTS	OBJECTIVES
Mobility	<ul style="list-style-type: none"> • Reduce # of collisions • Reduce # of allisions • Reduce # of groundings 	<ul style="list-style-type: none"> • Reduction / year • Reduction / year • Reduction / year
Accessibility	<ul style="list-style-type: none"> • Ensure upgraded VTS webpage is maintained and updated • Ensure controllers respond to customers in a timely manner • Enhance customer contact by increasing outreach programs 	<ul style="list-style-type: none"> • Updates of VTS webpage and products are made once a week • Average time to respond to a radio call is less than 5 seconds • Ensure 100% of feedback resulting from the ride program is analyzed by QMB
Equipment	<ul style="list-style-type: none"> • Increase day/night time coverage of CCTV's • Reduce equipment down-time • Effectively maintain utilization of all newly implemented equipment/technologies • Aggressively pursue information/implementation of new technologies 	<ul style="list-style-type: none"> • 25% better utilization both day/night of all CCTV's by 01 Jan, 2002 • 10% reduction down-time by 1 Jan, 2002 • Meet 100% contractual requirements of all new equipment/technologies • Implement AIS prior to July 1, 2002, concluding by 2008

2.2 Strategy Deployment

a. Action Plan Development and Deployment.

(1) The relatively small size of VTS Houston/Galveston, combined with an extremely focused mission, simplify the development and deployment of the unit strategy. This is accomplished by using the unit SOP to outline well-defined operating parameters that are established and understood by all crewmembers. All crew members are trained and tested on job skills. Once they complete the certification process they are empowered to make decisions while on watch. This results in a sense of responsibility for implementing the goals and objectives of the Strategic Plan. (Link *Figure 2.1-1*). Addressing the key strategic goals listed in *Figure 2.1-2* is a significant part of the action plan

development. *Figure 2.2-1* summarizes and flowcharts the unit's strategic action plan.

Our dashboard indicators (discrete measures and indices) indicate the effectiveness of our action (Link *Figure 4.1-1*). Each measurement has a required timeline (monthly, quarterly, annually. Thus, measurements enable us to periodically reassess our action plan deployment. We do this through the annual QMB review and then deploy any changes through internal policy or external outreach to customers. Two examples of this are our internal personnel recognition process and initiative to improve our CCTV's for optimal day/night effectiveness.

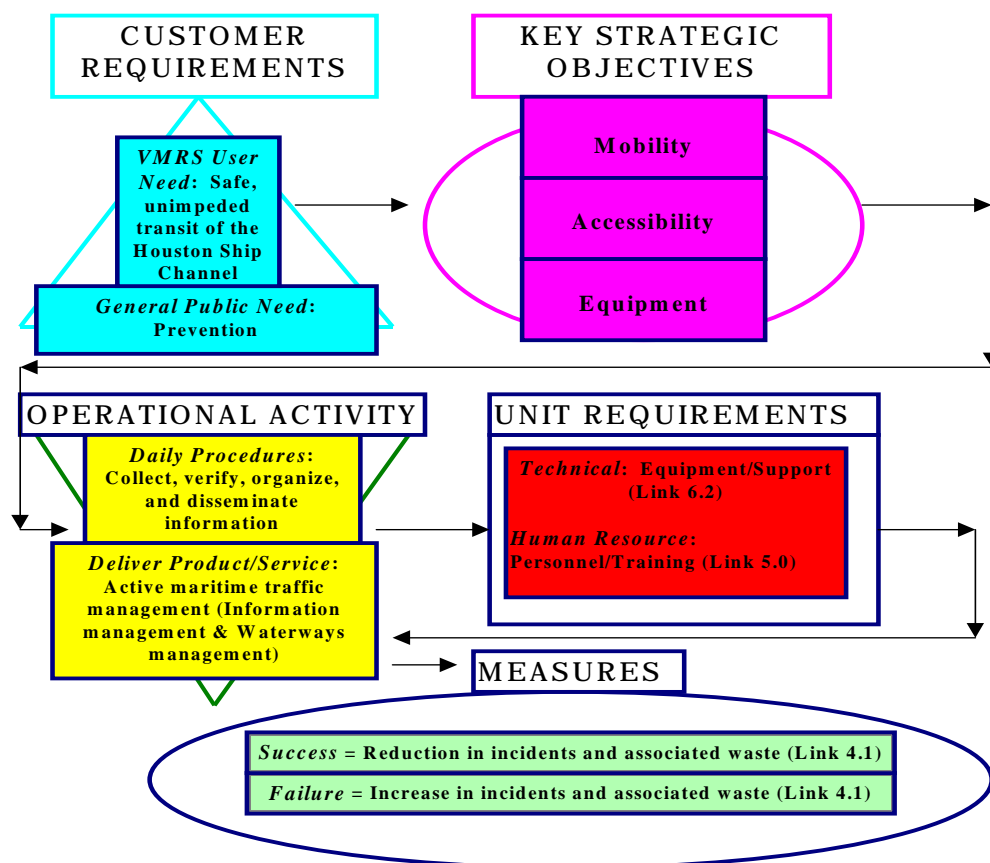
Management encourages employee involvement and recognizes ownership demonstrated by mid-level and low-level leaders at unit all-hands gatherings (Link 5.1). By integrating customers, suppliers, and employees into the planning process, the unit has established a culture of quality that furthers expected and supportive behavior of the Strategic Plan.

Resource allocation is critical for VTS due to personnel shortages attributable to transfer season anomalies (short-tours, gapped billets, unfilled PAL) (Link 2.2.a.3). The watch sections stand 12 hour watches, rotating every three days. This provides a measure of stability for the watchstanders, by allowing them to know their schedule in advance and plan personal requirements (such as off-duty continuing education) around their workdays. Each section works either days or nights, which lends another measure of stability to the watchstanders by ensuring their schedules are not disrupted by constant switching between day/night work cycles.

Each section contains between six and eight watchstanders, which allows personnel a reasonable opportunity to take leave. When circumstances arise where a section is short-handed, there are dayworkers who are qualified to stand watches that can assist the section. This allows some flexibility for the watchstanders while also ensuring that the mission is completed. VTS Houston/Galveston has experienced several circumstances where section personnel had to take an extended absence from the unit, which forced us to re-align several watch sections to ensure the manning levels were equal for each one. A recent example of this occurred when a crewmember suffered an unfortunate but extreme bodily injury and was put on convalescent leave for several months.

(2) Our key short- and long-term action plans reflect recent and projected changes in the unit's operating tempo and administrative responsibility. A few short-term action plans have resulted in the implementation of the CGVTS, implementation of our third operational radio frequency, and development of lightning prevention plans for our remote CCTV, radar, and radio sites and extensive revisions to the unit SOP. The procedural changes to our SOP have been made and have been implemented into the watch. However, this process remains a dynamic one and we are continuously updating and modifying our procedures to meet changing operational requirements and needs. Our key long-term action plans include relocation of one radar site to a less costly, easily accessible, and safety oriented site; relocation of one communications radio site for better area coverage; the AtoN Knockdown Action group (which has greatly benefited the CG AtoN mission and clearly benefited our users who receive better quality

Figure 2.2-1



traffic advisories due to earlier/timely reports of AtoN casualties); and development of the Facility Information Guide. All of these long-term action plans will have positive impacts on unit operations and customer satisfaction and provide a safer, more efficient means to transit through the VTSA.

(3) Human resource plans (Link 5.2, 5.3) are included in the unit requirements block of *Figure 2.2-1*. Our human resource requirements consist primarily of trained watchstanders. In order to meet the goals identified by our key strategic objectives (Link *Figure 2.1-2*), VTS Houston/Galveston requires qualified personnel with an appropriate amount of training to stand watches. Our civilian watchstanders give us a certain measure of stability (Link 1.1), but the large volume of information and skills required for qualification as a watchstander necessitates a lengthy six-month training cycle for all new personnel (Link 6.2).

In addition, the recent implementation of a third operating frequency means that we must dedicate three watchstanders to traffic management duties (rather than the previous two-person watch bill). This will allow the unit to handle the anticipated increase in traffic for the next four to five years. However, with current PAL, originally constructed for 1970's watch and traffic, will need to be refined (Link *ES*). We are currently operating with 2 unfilled billets and will lose all four qualified section AWS's over the next 6 to 8 months. To enhance watchstander continuity, we submitted a Resource Change Proposal (RCP) and a letter of command concerns requesting to convert 2 military billets to 2 civilian positions to mitigate loss of qualified controllers during transfer seasons. While the unit's PAL letter is under consideration the additional watchstander requirements will be reflected in increased personnel shortages during high turnover transfer seasons if replacements are not readily identified and brought aboard.

VTs Houston/Galveston encourages crewmembers to develop both professionally and personally through training and off-duty continuing education (Link 5.2). Specific examples are numerous solicitations for unit training funds (30T funds - Link Figure 7.3-5) for crewmembers to receive additional CG and civilian training, more favorable watch schedule (Link 1.1.b.3), and command level generated projects such as Seaman's Church Institute and Texas A&M. All of these contribute to employee satisfaction and also benefit us by providing a well-rounded employee.

(4) Our key performance measures used to track progress relative to our action plans are based on the goals relating to our Mobility and Customer Satisfaction objectives on our dashboard indicators, (Link Figure 2.1-2 and Figure 4.1-1) and include the number of transits without an incident, the number of transits without a preventable incident, Port Risk Index (PRI) and Channel Risk Factor (CRF), the amount of AtoN discrepancies, customer feedback on channel operations, Customer Satisfaction Index, and the type and number of incidents. Many of these measures are real-time such as PRI and CRF. In addition, the command reviews all incidents to gauge employee performance relative to the unit SOP and areas to improve our performance relative to customer needs (Link 1.2).

(5) Our strategic objectives, action plans and performance measures are deployed by the QMB via our Strategic Planning Process (Link Figure 2.1-1) and communicated through the chain of command and/or stakeholders (Link Figure 1.1-2). We ensure organizational alignment by requesting and analyzing input from the crew and/or stakeholders (through ride reports, webpage based Customer Contact Forms (CCF), unit visits, and customer surveys initiated by headquarters (Link 1.1). The crew, customer, and stakeholders also have every opportunity to voice problems/concerns and suggest improvements on a daily, informal basis. If needed, the crew may submit a more formal Quality Improvement Suggestion Form. This form is also routed through the supervisor, but requires the supervisor to recommend a suggestion (approve/disapprove), and forward it to the QMB. Suggestions forwarded to the QMB are placed on the agenda for the next meeting and either action is taken by the QMB or a NWG is formed to address the suggestion. The date of every action taken in this process is recorded on the form, along with the

actions taken. The form is eventually returned to the individual who submitted it to ensure he/she knows the proper action was taken on the suggestion. Most input from the crew comes via the informal basis, indicating that the open climate desired by senior leadership (Link 1.1) actually does exist.

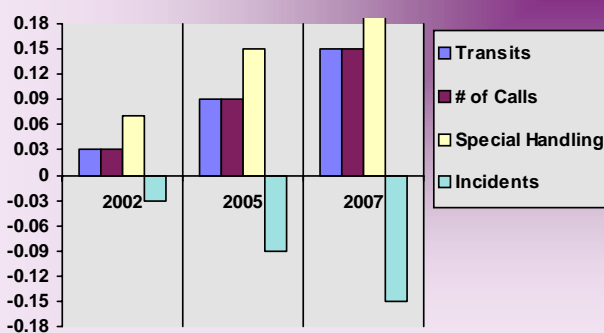
b. Performance Projection.

As the trend chart (Link Figure 7.1-5) indicates, traffic is increasing at a rate of approximately 3% each year based on statistics from 1989 to present. In 2001 total transits declined due to an economic downturn. However, over the same period of 1989 to present, the capacity of vessels calling on the port has increased

significantly, resulting in a significant increase in the throughput of cargo. A major tool we use to better align our performance with our customers' operational requirements is the Annual State of the Waterway address. This address presents data on navigation issues (transits, incidents and root causes) and affords customer's and stakeholders an opportunity to provide suggestions for change to unit operations and channel navigation procedures. Based on the statistics and trends in our most recent address and the expansion of the Houston Ship Channel (Link ES – Challenges and Successes), the unit's short and long-term outlook indicates a significant increase in maritime traffic into and out of the Houston/Galveston area.

Figure 2.2-2 depicts the long-term outlook using today's trend of 3% traffic increase. This traffic increase will produce an associated increase in vessel transits, special handling transits, and calls to the VTC requesting information on channel activities. Special handling transits should increase at a slightly larger rate than regular transits, due to the ability for larger vessels to transit the VTSA and a larger number of dredging and pipeline projects resulting from the Deepening and Widening Project (Link ES – Challenges and Successes). Theoretically, an increase in the number of vessel transits would produce a comparable increase in the number of incidents. However, our goals relating to the Mobility key strategic objective (Link Figure 2.1-2) call for a reduction in incidents (collisions, allisions, and groundings) versus reduction in percentage of incidents. Thus, if incidents

Figure 2.2-2



reduce and transits increase our goal is better illustrated and more identifiably achieved. *Figure 7.2-1* shows this goal is presently being met. Maintaining our high level of service to the customer through a comprehensive training program and actively pursuing technological advances such as AIS will aid in the accomplishment of this goal in the future.

Our projected performance mirrors our past performance because we are determined to maintain the same high level of service that we have traditionally provided to our customers, despite the projected increases in traffic. Although there are no organizational competitors (universal traffic management functions are an inherently governmental function), our key strategic goal for Mobility (Link *Figure 2.1-2*) is based on the Coast Guard performance goal for Mobility (M3) stated in the Coast Guard Annual Performance Plan: “Eliminate vessel collisions, allisions, and groundings.” Our goal to reduce incidents is based on the Eighth District TPP Goal #2 for Waterways Management in Mobility.

3.0 CUSTOMER FOCUS

3.1 Customer and Market Knowledge

a. Customer and Market Knowledge.

(1) We determine, and target, customers in several different ways. Our primary customer segment is Vessel Movement Reporting System (VMRS) Users. This customer segment is determined through 33 CFR 161.2. Our second customer segment is VMRS Non-Users. A VMRS Non-User is a vessel that is transiting within the Vessel Traffic Service Area (VTSA), but is not required to participate in the VMRS according to the Code of Federal Regulations (CFRs). All users are subject to the Vessel Bridge-to-Bridge Radiotelephone Act, which requires them to monitor VHF-FM Channel 13. A third customer segment is intermodal and local industry communities within the Ports of Houston, Galveston, and Texas City. Members of this segment of our customer base represent the shoreside support elements of customers required to actively participate in the VMRS.

Figure 3.1-1 (Customer Segments)

CUSTOMER	CUSTOMER SEGMENTS	REQUIREMENT PRODUCT/SERVICE	KEY SUCCESS FACTORS(S)	MEASURES (INDICATORS)
Vessel Movement Reporting System (VMRS) Users	<ul style="list-style-type: none"> >Vessel > 40 meters >Vessel > 8 meters engaged in towing >Vessel cert'd to carry 50+ Pax 	<ul style="list-style-type: none"> >VTS information (broadcasts and movement reports) 	<ul style="list-style-type: none"> >Trained crew >Adequate equipment >Accurate report >Guidance from higher authority 	<ul style="list-style-type: none"> >Training Process (CT, W) >Transit: Incident (CS) >Ride Program Input (CS)
VMRS Non-Users	<ul style="list-style-type: none"> >Harbor Tugs >Light Boats >Pleasure Craft >Shrimp Boats >Oyster Boats 	<ul style="list-style-type: none"> >VTS information (broadcasts and movement reports) 	<ul style="list-style-type: none"> >Trained crew >Adequate equipment >Accurate reports >Guidance from higher authority 	<ul style="list-style-type: none"> ># of incidents involving non-users (CS, Controllable accidents may be W measure)
Local Industry/ Intermodal Agencies	<ul style="list-style-type: none"> >Tow Industry >Pilots' Assoc >PofH >Ship Agents >Marine Exchange >Stevedores 	<ul style="list-style-type: none"> >Advance transit information >Logistical Info >COTP direction 	<ul style="list-style-type: none"> >Trained Crew >Adequate equipment >Accurate reports >Guidance from higher authority 	<ul style="list-style-type: none"> >Customer Survey Comments >Safety record >Training Results-W,CT-
Other Federal Agencies	<ul style="list-style-type: none"> >Customs >Immigration >USDA >US Marshals >ACOE 	<ul style="list-style-type: none"> >Logistical Information 	<ul style="list-style-type: none"> >Trained Crew >Accurate reports 	<ul style="list-style-type: none"> >Customer comments (CS) >Training Results
Other CG Commands	<ul style="list-style-type: none"> >MSO >MSU >AIRSTA >GRU & ANT >LOCAL CGC'S >D8(m) & (cc) 	<ul style="list-style-type: none"> >CG eyes and ears (SAR, LE, MEP, AtoN) >SITREP Info >Peripheral Data 	<ul style="list-style-type: none"> >Equipment >Support >Training >Personnel 	<ul style="list-style-type: none"> >Monthly Activity Reports

Figure 3.1-1 summarizes our customer segments, indicates how we determine their requirements, and what key factors lead to relationship maintenance. Our contact is direct, frequent, and through multiple channels including at their work, at our work, at public meetings, and through fax, email, and voice communications. VTS watchstanders invite feedback from all customer segments, not only through daily phone and radio conversation, but also by visiting with these customers while participating in our channel Ride Program (Link 1.1) and at various maritime community events. Examples are outreach sessions, speaking engagements, and the Port of Houston "Maritime Festival."

As shown above, our customer segments and the

services we provide them are determined primarily through the CFRs, COTP direction, and general Coast Guard responsibility to the maritime community. VTS is a mandatory system for our largest customer segment, VMRS Users, which precludes any competition. However, the VTSA is a dynamic area, with constant changes regarding the size and types of vessels that transit its boundaries. This requires forward thinking to identify how a changing customer base will affect the ability to fulfill our mission. For example, the deepening and widening project currently underway in the Houston Ship Channel (Link ES – Challenges and Successes) will expand the VMRS User customer segment by providing the opportunity for larger container ships, tankers with deeper drafts and more cruise ships to utilize the waterways. This will result in an increasingly unpredictable waterway, due to the increased interaction between these new customers and existing customers. For example, towboat operators accustomed to arranging and performing passing arrangements with certain sizes of ships will have to learn the characteristics of these newer ships with different dimensions.

Figure 3.1-2

Methods Used to Obtain External Customer Requirements & Build/Maintain Relations

VMRS USER	VMRS NON-USER	LOCAL INDUSTRY/ INTERMODAL AGENCIES	OTHER FEDERAL AGENCIES	OTHER AREA CG UNITS
<ul style="list-style-type: none"> • CFRs • VHF-FM • Telephone • FAX • E-mail • HOGANSAC • User Surveys • Ride Program • Maritime Community Events 	<ul style="list-style-type: none"> • CFRs • VHF-FM • Telephone • FAX • E-mail • HOGANSAC • Maritime Community Events • Tours 	<ul style="list-style-type: none"> • COTP • Telephone • Fax • E-mail • HOGANSAC • Maritime Community Events • Tours to industry representatives 	<ul style="list-style-type: none"> • CFRs • HOGANSAC • FEB • Telephone • FAX • E-mail • Maritime Community Events • Tours 	<ul style="list-style-type: none"> • COTP • ESC, CO's • Conferences • Daily Conference Calls • Telephone • FAX • E-mail • CG Events • Ride Program

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(2) Our listening and learning strategies vary for different customer groups, and all employees are trained in customer listening. For the VMRS User and Non User customer groups, listening and learning strategies are both active and passive. These customers give feedback to watchstanders, primarily over the radio during their transits, regarding waterway conditions, AtoN, channel operations, and other pertinent information. For example, observations by VTS controllers and comments from representatives of local industry have highlighted a problem of vessels and barges being improperly moored at channel-side facilities. VTS is an active player in the HOGANSAC working group formed to address this issue. As part of that effort we receive reports from VMRS users (and non-users). This role illustrates the efficiency and effectiveness of our Customer Complaint Process (Link *Figure 3.2-2*). These notifications have prompted us to add a change to watch procedure. In addition to ensuring the mooring is corrected and safe, the WS will log the complaint. This information is reviewed by command cadre (to identify patterns) and passed to the working group for further analysis.

As previously stated, with the high traffic volume and limited opportunity to question these vessels (Link *Figure 2.2-2*), the safest method of using this feedback is to have the controllers record it and/or verbally forward it to the Watch Supervisor, who takes action or forwards it to the Operations Officer for immediate action, as appropriate (i.e. above example). Ride reports (Link 1.1) are an example of an active strategy to elicit feedback from these customer groups. We have updated the ride report format to target ongoing concerns by directing riders to ask specific questions about current initiatives (i.e., satisfaction with third frequency, observations concerning aids to navigation). In fact, the ride reports have recently resulted in several changes in support of our key strategic goals (Link 2.1). For the other customer segments, more proactive listening and learning methods can be employed. The primary methods to obtain feedback are through surveys, waterways management meetings, and daily interaction with the customers. Waterways management meetings with marine industry such as HOGANSAC (Link 1.2) are excellent avenues for feedback because several different customer segments are represented.

Our strategic approach to listening and learning from our customers is evaluated and improved through the QMB. The QMB evaluates all customer feedback, VTS webpage comments, ride report analysis, Customer Satisfaction Index, survey results, and feedback at waterways management meetings. VTS has aligned segmented customer requirements with the products and services we provide and with the key success factors needed to make sure those requirements are being met (Link *Figure 3.1-1*). Ultimately, our primary customers require safe, lawful, unimpeded passage through the Houston Ship Channel and connecting waterways. Our mission strategy, our relationship with secondary customers, and our internal processes all stem from that requirement and are integrated into our annual strategic development process (Link *Figure 2.1-1*).

(3) Our system of maintaining customer relationships generates significant input on unit products and services. As a result our customer base is increasing. Consequently, all members of the unit are involved in our effort to ensure that information and feedback from this ever increasing base of customers and stakeholders is incorporated into unit evaluations and operational assessments. All of our services have built-in feedback mechanisms that solicit customer complaints, concerns, priorities, and ideas. Our customer complaint information is gathered by our Internet webpage electronic mail (email) link which sends all complaints/queries directly to a WS email Inbox that is monitored 24 hours per day. We also use Customer Contact Forms (CCF) which are filled out for ride report complaints, phone complaints, or complaints received over the VTS operating frequencies. In response, VTS crewmembers seek more information from the entity submitting the complaint/query, and follow through with a report to their immediate supervisor (i.e. WS, OPS, TC, XO or CO). A CCF is completed and the issue resolved or forwarded up the chain until it is resolved. The value of our services to our customers is determined through feedback from the customer complaint process depicted in *Figure 3.2-2* and our annual review of our Customer Satisfaction Index (Link 3.2.b.1).

(4) Business needs change as traffic in the Houston Ship Channel increases. Consequently, our customer base increases and the need for even more efficient services is vital (Link 2.2). Our QMB adopts a systematic process (Link 2.1) that evaluates and improves our approach to listening and learning from our customers by analyzing our feedback methods. The QMB asks the question, “Are these methods still working?” There are several ways that we have improved our listening and learning methods. We monitor and record equipment downtime and the associated reasons for it enabling us to determine how reliable our equipment is and if it will meet the increased traffic demands expected in future years. We have also modified the ride report format to target immediate concerns by directing riders to ask specific questions regarding specific issues. Customer interaction is a critical way of ensuring that our listening and learning methods are kept current with business needs and directions. These efforts are targeted to address specific issues while preserving the customer’s ability to furnish input and any aspect of VTS operations. For example, since 11 September 2001 our business directions have changed and we have included a section for riders to report back on security observed and information collected from users of security around facilities, vessels, and around the port in general. All minor and major violations are immediately reported to the COTP to ensure corrective action is taken.

3.2 CUSTOMER SATISFACTION AND RELATIONSHIPS

Figure 3.2-1 – Key Access Mechanisms

CUSTOMER	KEY ACCESS MECHANISMS	DELIVERY METHODS
Vessel Movement Reporting System (VMRS) Users	<ul style="list-style-type: none"> • Watchstanders • Webpage 	<ul style="list-style-type: none"> • Radio communications • Telephone • Fax • Tours • Email CCF
VMRS Non-Users	<ul style="list-style-type: none"> • Watchstanders • Webpage 	<ul style="list-style-type: none"> • Radio communications • Telephone • Fax • Tours • Email CCF
Local Industry/ Intermodal Agencies	<ul style="list-style-type: none"> • Command • Webpage 	<ul style="list-style-type: none"> • Meetings • Telephone • Letters • Fax • Tours • Email CCF
Other Federal Agencies	<ul style="list-style-type: none"> • Command • Webpage 	<ul style="list-style-type: none"> • Meetings • Telephone • Letters • Fax • Tours • Email CCF
Other CG Commands	<ul style="list-style-type: none"> • Daily interaction • Command • Watchstanders • Webpage 	<ul style="list-style-type: none"> • Meetings • Message traffic • Telephone • Fax • Tours • CG Email • Email CCF

a. Customer Relationships.

(1) Our key access mechanisms are determined by customer needs. Our customers require constant, 24-hour access to the products/services that we provide. The primary way that we provide this access is through the Vessel Traffic Center (VTC), our control center that is continuously manned. The watchstanders have constant interaction with VMRS Users and Non-Users via radio communications, which provides the opportunity for those user groups to request information or assistance and also to make suggestions or register complaints. All customers have access to VTS Houston/Galveston via the telephone, either through the watchstander or by talking directly to the command. The continual maintenance of our cellular phone contract for the senior leaders (Link 1.1) significantly increases their accessibility by customers. Additionally, we are always available to give tours to interested customers. Our enhanced interactive webpage (Link 6.1) provides another avenue for access to VTS Houston/Galveston products/services and as a way for customers to reach out and query us through our email-based CCF.

Our key access mechanisms for each customer segment are summarized in *Figure 3.2-1*. By making ourselves accessible through many means, we allow

customers to choose their access mechanism. Different access mechanisms are preferred by different customers depending on their schedules and needs. For example, the Command Duty Officer (CDO) for MSO Houston can monitor the transit of a targeted vessel by going upstairs to the VTC and asking the watchstander for that vessel’s position. Likewise, COTP orders can be transmitted verbally from the CDO to the VTS Watch Supervisor in exigent situations. Other CG commands located in different areas can communicate with us via established methods, such as telephone, fax, email and message traffic. The common operating environment base of the unit’s new vessel tracking software will allow us to share this information on a real-time basis with area Coast Guard and DOD commands.

Our watchstanders receive training in customer relations during the qualification process (Link 6.2). Because all assigned personnel are senior individuals (primarily E-5 and above) most are already skilled in customer service responsibilities. Watchstanders also receive guidance on the information that they are allowed to release to the public in accordance with the Freedom of Information Act. Watchstanders receive training in the proper use of

email, releasing/receiving message traffic, and releasing faxes. All of this training is accomplished through passive observation first, and then through active participation under supervision.

(2) The majority of our customer contact requirements flow from participation requirements set forth in the CFRs and CG policies. The VTS-customer relationship is based on communication and mutual understanding. The QMB uses input from customers in the Strategic Development Process (Link 2.1). This input can result in a change in customer contact requirements, such as recent changes to the vessel ride program and report format. If there are additional customer contact requirements, we determine these by realizing the importance of the relationship and working hard to promote and expand it through a visible presence in the community.

We are proactive in initiating and maintaining customer contacts and relationships. We provide the maritime public and industry with information reports regarding upcoming channel obstructions/closures, changes to our operating procedures, and notification/management of incidents. We also transmit daily reports to specified customers regarding vessels currently inport (Inport List), vessels transiting the VTSA (VT Log), and daily channel conditions including AtoN discrepancies (Dispatcher's List). All of these reports are sent to users via email or fax. In order to effectively manage the transmission of these reports, we created distinct distribution lists based on customer interest and request. Each report has its own distribution list, and each distribution list has its own one-touch number on the fax machine. This allows the watchstander to transmit a report to a group of customers by simply pressing one key on the fax machine, eliminating any potential errors in entering fax numbers. For example, dispatchers for all tow companies, the Houston Pilots, and the Galveston/Texas City Pilots receive the Dispatcher's List since they need timely, accurate information regarding channel conditions.

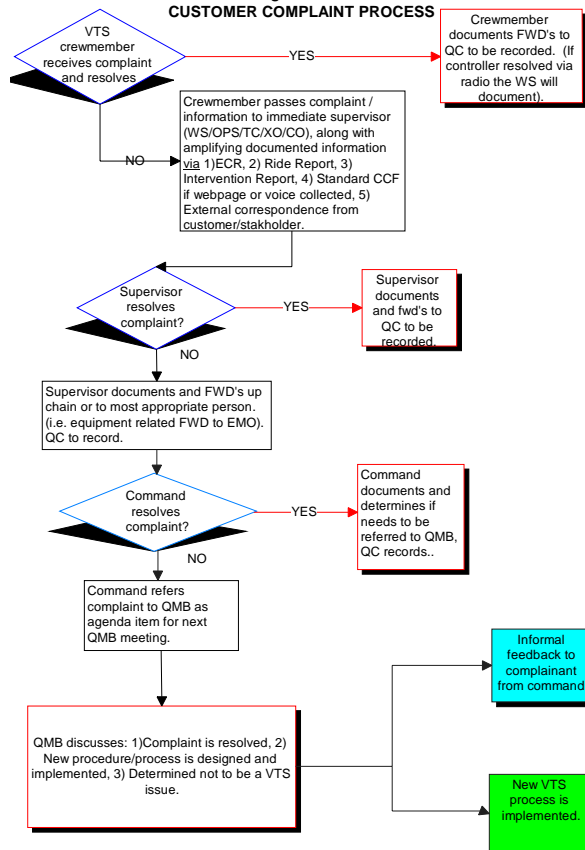
We ensure that all employees are aware of these requirements through training (Link 6.2.b). Further, we ensure that every level in the organization is aware of its responsibility to listen to and note the concerns of customers. This is accomplished through training, performance feedback and customer feedback.

(3) Our complaint management process follows the chain of command in such a way that issues are properly documented and resolved promptly. If a complaint is received by a controller it is reported immediately to the Watch Supervisor (Link 3.1.a). The Watch Supervisor may be empowered to make a decision to respond, or may do so after consulting the Operations Officer, depending on the nature of the complaint. In either case the complaint is documented on a CCF and forwarded up the chain. Recurring complaints are presented to the QMB for thorough analysis and resolution (Link *Figure 3.2-2*). Complaints are also used as input in the Strategic Development Process (Link *Figure 2.1-1*). Complaints are most often submitted via radio or telephone to the watchstanders, who route it through the chain of command. However, sometimes a complaint will be submitted via telephone or during a meeting. These complaints follow an abbreviated routing process with the QMB becoming directly involved if the command can't resolve the issue on the spot. Complaints that are referred to the QMB are added as agenda items. Where necessary, unit level workgroups (such as the CGVTS transition group) or unit-industry committees (such as the frequency congestion workgroup) are formed to address specific issues. Though not always possible due to the informal nature of most complaints, a concerted effort is made to provide feedback to the customer. This is accomplished either directly via the radio or telephone, through a letter or fax to a company or organization, or through a change in our policies/ procedures. Our complaint management process is depicted in *Figure 3.2-2*.

(4) VTS Houston/Galveston strives to maintain long-term relationships with all of our customers. One way we maintain loyalty and positive referral is by consistently supplying credible information and quality products to our customers. Reliable information that enhances safe navigation is vital to our operation and our credibility with all of our customer segments. For the VMRS Users and Non-Users, we try to make their transits as predictable and uncomplicated as possible. We share unit-developed information with users (and any other interested party) to facilitate their operations. For example, we provide copies of the VTS Houston/Galveston User Guide and a set of chartlets of the VTSA for use as a quick reference or for training purposes. In addition, any customer/user may now acquire this information from our Internet webpage. The User Guide provides basic information about the VTSA, including CFR requirements, working frequencies for facilities, local regulations and directives, and local CG contacts. The chartlets are a series of 27 one-page charts that encompass the VTSA, detailing reporting points, AtoN, and all the facilities and their associated ship/barge docks. Feedback we have received regarding these chartlets has been extremely positive.

(5) Our approaches to customer access and relationships are kept current with business needs and directions through customer outreach and the use of emerging technologies. Customer outreach is accomplished through customer satisfaction surveys, tours, and meetings. The use of today's technologies, such as the Internet and email, allows us to reach customers more efficiently. A new telephone voice messaging system has been recently installed which includes voice mail capability for all extensions. This system facilitates a customer's ability to connect directly with the office or individual at the VTS best positioned to address their issue. This will reduce the workload on the watchstanders by eliminating the need for them to relay messages to other personnel. We have also

**Figure 3.2-2
CUSTOMER COMPLAINT PROCESS**



implemented email distribution for our daily products instead of fax distribution in response to customer requests. This allows for more rapid distribution of information and improving our ability to receive incoming fax transmissions.

b. Customer Satisfaction Determination

(1) The unit uses a variety of measurement methods and procedures to determine customer satisfaction. At the national level, the Office of Vessel Traffic Management (G-MWV) conducts national customer satisfaction surveys and provides results to individual VTs (Link Figure 7.1-1). The QMB reviews the results and identifies areas (strengths as well as weaknesses) for follow up. At the local level, the unit conducts user surveys and evaluates each ride report according to consistent objective standards (Link Figure 5.2-4). Their surveys capture data on a participant's operational needs (i.e., what information they want in a VTS advisory), future plans and capabilities (i.e., whether they project a growth in vessel traffic) and user satisfaction with existing VTS services. Their surveys have been a critical part of the unit's planning process. For example, surveys played a large role in the unit's decision to implement a third operating frequency, eliminate two reporting points and plan for future system expansion.

(2) The primary method we use to follow up with customers on products/services is through voice communications. This is accomplished via radio, through watchstander interaction with VMRS Users and Non-Users, and via telephone, through command interaction with representatives from CG units, industry leaders, and other customer segments. The biggest benefit of this process, however, is the informal feedback received from the customer and the ability to clarify issues and ensure prompt and actionable feedback. The unit also solicits information and feedback from mariners after an incident. This process includes verifying data in unit incident reports and obtaining feedback on the manner in which the incident was handled by the VTS.

(3) The QMB also gathers comparative customer satisfaction data from other CG VTS's through Monthly Activity Reports, filed with G-MWV. The reports detail the number of collisions, allisions, and groundings compared to the number of transits that each unit processed. The reports also include man-hours dedicated to community outreach, partnership in education programs, and law enforcement support. Similarly, equipment downtime is included. In this way, VTS Houston/Galveston can compare our customer service to other units that offer the same services.

(4) Our approaches to customer satisfaction determination are kept current with business needs and directions by analyzing the feedback received from customers through the QMB (Link 2.1). This analysis enables us to measure the effectiveness of our approaches. Technology is a critical part of this effort. For example, our web based CCF has been very successful. All electronically-submitted CCFs have been addressed and resolved within 48 hours, exceeding our goal. In addition, the TC's detailed analysis of ride reports and review of the reports by the command cadre also keeps us current with what customer needs and operational requirements.

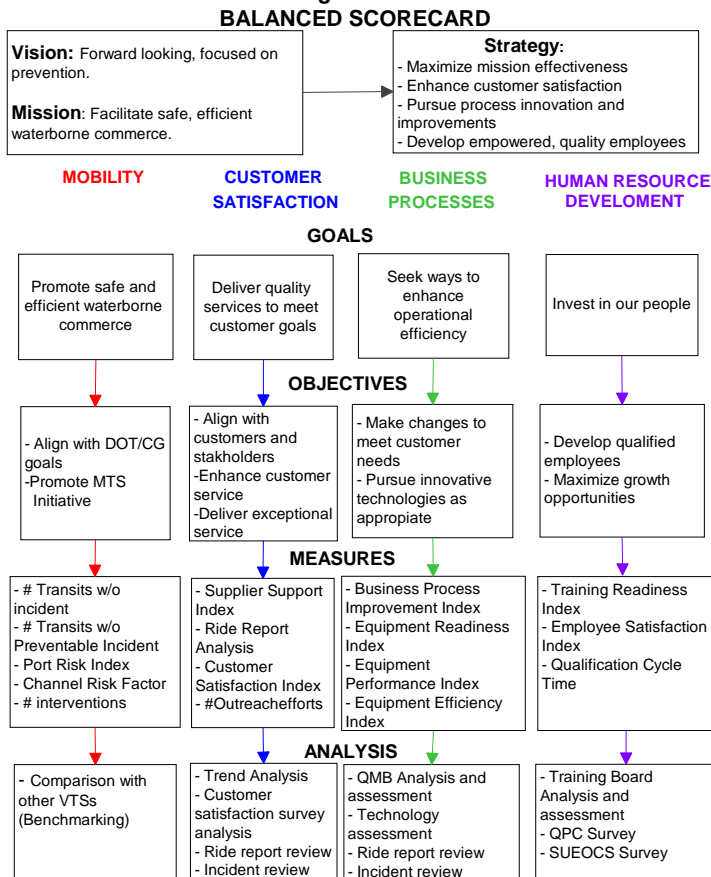
4.0 INFORMATION AND ANALYSIS

4.1 Measurement and Analysis of Organizational Performance

a. Performance Measurement.

(1) VTS Houston/Galveston's well-defined mission (Link *Figure ES-1*), combined with the nature of the mission, creates an excellent environment for collection and analysis of information on a regular basis. To assist us in measuring our performance, we created a balanced scorecard (BS) to identify our strategic goals/objectives and select measurements to ensure the goals/objectives are being met.

Figure 4.1-1



These measures were developed during a series of QMB meetings that focused on metric development for our key business and support processes. The metric development and many of our measures were driven by feedback from our CY 1999 CQA submission and input from unit personnel. *Figure 4.1-1* shows how our vision and mission statements drive our goals/objectives. It also shows how our measures are derived from our goals/objectives and the ways that we analyze our measures to determine if our goals/objectives are being accomplished. These goals/objectives are used as a basis for the QMB to determine our key strategic objectives (Link 2.1) and our key processes (Link 6.1, 6.2). Similarly, the measurements in our balanced scorecard drove the selection of measurements for our key processes (Link 6.1, 6.2). The QMB uses the information and data compiled in support of the balanced scorecard routinely. For example, data compiled in conjunction with daily calculations of the port risk index is being analyzed to develop specific procedures (e.g., extra watchstanders, multiple controllers

per sector) we could implement to address heightened navigation risk conditions.

We realize that to achieve continued success in the extremely busy and constantly changing environment of the Houston Ship Channel, we must compare positively to other CG units, as well as other organizations of similar activities. To do so, we actively pursue best practices in both the federal and non-federal sectors. We benchmark our key processes to determine what comparative information is needed for an accurate assessment of our products/services. One important criterion for selecting agencies for comparison is the type of equipment they use in their operations. One of our key strategic objectives involves pursuing information on new technologies (Link *Figure 2.1-2*). Therefore, any information on the effectiveness of various equipment types in use by other agencies,

especially cost and maintenance requirements is extremely desirable. *Figure 4.1-2* shows the organizations we have used for comparative data and how we utilize that data.

Figure 4.1-2

EXTERNAL DRIVER	PROCESSES COMPARED	COMPARATIVE DATA GATHERED	METHODS
FAA (Flight controllers)	<ul style="list-style-type: none"> Air traffic control 	<ul style="list-style-type: none"> Computerized tracking system and backups Training methods 	<ul style="list-style-type: none"> Visit to ARTCC
Other VTS's	<ul style="list-style-type: none"> VMRS processes 	<ul style="list-style-type: none"> CGVTS use 	<ul style="list-style-type: none"> VTS conferences MAR's MWV shares info
Other CG units w/ and w/o live/continuous watch	<ul style="list-style-type: none"> Qual' methods Job (employee) Satisfaction 	<ul style="list-style-type: none"> Fatigue studies Employee requirements/standards Watch schedules 	<ul style="list-style-type: none"> D8/LANTAREA best practices program JSS
MSO Houston	<ul style="list-style-type: none"> Local public affairs 	<ul style="list-style-type: none"> Best practices Shared efforts 	<ul style="list-style-type: none"> Informal interaction
Houston Metro traffic	<ul style="list-style-type: none"> Highway traffic control 	<ul style="list-style-type: none"> Technological advances Video equipment Data transmission capabilities 	<ul style="list-style-type: none"> Site visit Equipment Evaluation

We analyze different VTS's performance standards every month by reviewing Monthly Activity Reports and have benchmarked ourselves against results of similarly situated CG units. For example, we conducted a cross examination of MSU Galveston and VTS Houston/Galveston results of a Job Satisfaction Survey. After the QMB analyzed and compared the results we found that both units on average were operating at similar stages, 3.65 range out of 5 point scale. However, a more thorough analysis of the results indicated

that there were specific actionable items for the unit to focus on. For example, results suggested that (1) the VTS members felt that they should receive more personal performance related feedback and (2) the crew appreciated current efforts to address equipment related shortcomings but that continued efforts were necessary to optimize the unit's operational capability. This process analysis pushed our action groups into our strategy development stage (Link *Figure 2.1-1*).

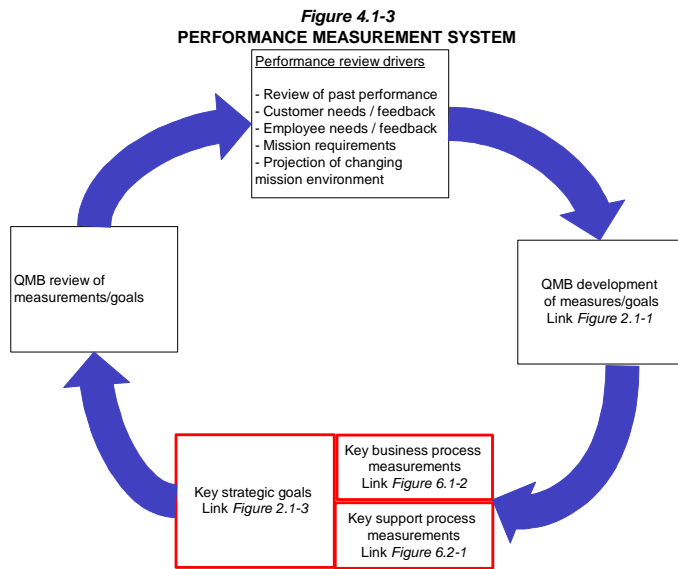
(2) We have many newly developed indices that we utilize to track daily operations and performance. We constructed the Port Risk Index (PRI) to evaluate the risk for a user to transit the Houston/Galveston waterway and which consists of four primary indices 1) SS or Section Strength which evaluates VTS manning level and assigns a minimum capability level which is not to be exceeded, 2) CRF or Channel Risk Factor which accounts for AtoN discrepancies-channel hazards-quantity of traffic-and if any incidents are occurring, 3) EEI or Equipment Efficiency Index which accesses equipment performance [EPI] and equipment readiness [ERI], and finally 4) EC or Environmental Conditions which takes into consideration weather-current-visibility-and state of the tide. Through this detailed measure we are able to conduct a daily risk analysis of the waterway/port and are better able to determine if VTS traffic management directives or recommendations are necessary.

The QMB designed the PRI through many off-site meetings taking into account specific criteria that apply to the ports of Houston, Galveston, and Texas City. The development of the PRI has grown tremendously and has become a unit wide effort. All WS's present the PRI to the CO during 8 o'clock reports twice each day in order for the command cadre to better grasp risk of the waterway. The WS also utilizes the PRI throughout the watch to update their risk analysis if significant changes occur during the watch (e.g., vessel incidents, several AtoN discrepancies, loss of watch standards, or significant weather changes). With the PRI the WS is able to determine if VTS action should be necessary or how the VTS may be able to impact the risk of the port (e.g., decrease the risk).

(3) We select our key comparative data and information through benchmarks conducted on equipment effectiveness against other similarly situated organizations (e.g., FAA and TRANSTAR) and also through benchmarks of administrative measures with other commands in our area. Thus, the criteria pulled from the benchmarks are a good mix of leading and lagging measures (e.g., a mix of indicators that measure past, present and future performance). We use the data from the TRANSTAR benchmarking to set our own stretch goals and determine whether or not our equipment performs to our needs as compared to TRANSTAR's highway CCTV's. Thus, areas for improvement can be determined and action plans can be developed through the QMB.

(4) *Figure 4.1-3* illustrates how we keep our performance measurement system current with business needs and directions. Our primary means of evaluating and improving our measuring systems are through our monthly QMB meetings. For example, at a recent QMB meeting we considered a recommendation to enhance the effectiveness of the unit's Equipment Efficiency Index (EEI). A WS had recommended that we add a component to reflect daily casualties of equipment in addition to a monthly average of downtime. The QMB agreed and adopted the recommended change and the PRI NWG took for action. The PRI NWG quickly addressed the issue and

proposed an additional factor that was easily and objectively measurable and able to be incorporated into the PRI. The QMB agreed with the proposal and the change was made immediately. Thus, the PRI is now a more effective measure of risk.



b. Performance Analysis

(1) We have determined that we cannot compare/ benchmark ourselves to other VTS ports in terms of our risk analysis or performance of operations. Navigational risk of a port is unique to each port on geography, industry, fishing, recreational boating, etc. Our risk measures are Houston/ Galveston environmentally driven and thus benchmarks are neither useful nor meaningful. Our balanced scorecard (*Figure 4.1-1*) demonstrates how our objectives are met when the results of our measures are analyzed. Thus keeping our objectives clear ensures that our goals are achieved. NWG's and senior leadership use the results of these analyses to determine if our measures of effectiveness are accurately reflecting mission

performance and remain useful as a tool for identifying areas for improvement.

One example of achieving this is our internal unit surveys we now conduct on an annual basis between QPC assessments (Link 4.1.a.1). Our analyses are an integral part of our organizational strategic planning. We use the results in our Strategic Development Process - QMB/Training Board assessment, Customer Satisfaction survey (Link *Figure 2.1-1*), and in our Product/Service Design Process - Technology assessment (Link *Figure 6.1-1*). Our key business results and strategic objectives (Link 2.1, 6.1, 6.2) are in alignment with the goals/objectives stated in our balanced scorecard (*Figure 4.1-1*). Therefore, any analyses conducted regarding our balanced scorecard goals/objectives will address our key business results and strategic objectives.

(2) The relatively small size of the unit and our focused mission allow us to rapidly communicate the results of our organization level analyses to those involved in unit operations and planning (Link 1.1). The annual strategic planning cycle (Link 2.1) provides the opportunity to formalize our systematic approach, ensuring the information and data we analyze remain pertinent to our mission. Our Quality Structure (Link *Figure 1.1-1*) shows the relationship between senior leadership, the QMB and our NWGs. Our Strategic Development Process (Link *Figure 2.1-1*) shows how our QMB uses the data provided by these sources, along with additional employee input and customer input, to develop annual action plans. Any issues resulting from this data analysis that require a further detailed analysis are generally referred to a NWG by the QMB. The NWG, consisting of various VTS crewmembers, will meet at various times to go through a problem-solving or process improvement evolution and will present a summary of the meetings, along with their recommendations, to the QMB. This demonstrates to employees that they are an integral link in the organization's decision-making process. A recent NWG chartered by the QMB involved the issue of frequency congestion on the two VTS Houston/Galveston VHF-FM radio frequencies. The overall outcome of the NWG was the implementation of a third working frequency for VTS Houston/Galveston. The successful efforts of this workgroup were due in part to the unit's ability to communicate an organizational level issue (e.g., frequency congestion and its potential to impact navigation safety).

(3) Results from our analyses are used as external and internal inputs in our process analysis improvement reviews by the QMB (Link 2.1). Through these, we deploy strategic plans back down through the unit. Our strategic planning process (Link 2.1) is used to develop action plans that will allow us to achieve our goals/objectives listed in *Figure 4.1-1*. This process includes a projection of our future performance, which seeks alignment with the strategic goals stated in the Coast Guard Annual Performance Plan and the Eighth District TPP (Link 2.2). Likewise, these findings and resulting strategies are used to demand changes in support from our

suppliers. *Figure 4.1-4* shows the organization of our process analysis and how VTS breaks each process down into performance deliverables and how they are deployed operationally.

The data gathered is used in our Strategic Planning Process (Link *Figure 2.1-1*) to determine the effectiveness of our current action plans, including our goals/objectives and measures. If there are any areas of weakness identified, we can use that data to refine our goals/objectives, update our action plans, and select measures that will provide alignment with those action plans.

Figure 4.1-4
VTS HOUSTON-GALVESTON PROCESS ANALYSIS
(Link 2.1, 6.0)

BUSINESS/SUPPORT PROCESSES	DELIVERY	OPERATIONAL DEPLOYMENT MECHANISMS
Vessel Traffic Management	<ul style="list-style-type: none"> • VMRS • AtoN Outage • Special Operations • Regulations • Proactive Management 	<ul style="list-style-type: none"> • VTS Traffic Advisory • Collect, Verify and Report AtoN Outage • Dredges, Bunkerings, Dive Ops, Hazards to Nav • Regulation Enforcement • Interventions
Waterways Operations	<ul style="list-style-type: none"> • Notification • Planning • Execution 	<ul style="list-style-type: none"> • Interface with Local Advisory Groups • Interface with Port Emergency Committee • COTP Coordination for Port Operations • Anchorage Management
Waterways Management Link 1.1	<ul style="list-style-type: none"> • HOGANSAC • WAMS • Port Needs Studies • ACOE Interface • User Alignment 	<ul style="list-style-type: none"> • Sub Committees • COTP Recommendations • AtoN Discrepancy Reporting • Deepening/Widening Projects • Channel Maintenance • User Surveys
Emergency Response	<ul style="list-style-type: none"> • Notification • Traffic Management • Reporting 	<ul style="list-style-type: none"> • Collisions, Groundings, Allisions I.D. • Industry/Traffic Notification and Involvement • COTP/District Notification and Involvement
Qualification Link 6.2	<ul style="list-style-type: none"> • Training • Recertification • Ride Program • Remediation 	<ul style="list-style-type: none"> • Phases I, II, III, IV; National Certification • Testing, Review Boards • Emergency response • Facility Visits/Tow Rides, User Interaction
Public Relations Link 1.2	<ul style="list-style-type: none"> • Public Appearance • Tours • Community Involvement • Ride Program 	<ul style="list-style-type: none"> • Partnership In Education • Congressional Outreach • Maritime Community Events • Vessel Rides/Facility Visits
Administrative Support	<ul style="list-style-type: none"> • Leave/Orders • T&A • Employee Satisfaction 	<ul style="list-style-type: none"> • Access to ADMIN personnel • Open door policies • Employee Indoctrination & Familiarization
Technical Support Link 2.1, 6.1	<ul style="list-style-type: none"> • Financial Management • Equipment Maintenance • Customer Satisfaction 	<ul style="list-style-type: none"> • Casualty Support (MLC, ESU, Contracts) • Documentation of Equipment Downtime • Knowledge/Training

As previously discussed all of our measures in our Balanced Scorecard have an ability to pinpoint areas that may need improvement. For example, our PRI has thresholds for every component. As the thresholds are reached the WS must evaluate his/her watch more closely (e.g., issuing broadcasts, directives, or recalling individuals). Thus, the PRI is one tool the unit uses to align our organizational level analyses with our key business results and strategic objectives.

4.2 Information Management

a. Data Availability.

(1) As previously stated in section 3.2 “Our key access mechanisms are determined by customer needs” and our primary customer need is access to information we possess. We maintain a uniform and equitable standard when providing information to customers, suppliers or partners outside the Coast Guard. Information transfer like Daily Inport Lists, Dispatcher’s Lists, Daily Transit Logs, etc. for customer, stakeholder, and some supplier use is highlighted in detail in chapter 3 (Link 3.2.a.2) Our webpage has become a large supplier of information for our customers more recently. We have been promoting the webpage through outreach meetings and the word seems to be getting out. In addition, our supplier/partners receive information in regards to equipment performance and availability from the EMO, ECR’s, and formal feedback from command (usually in the form of meetings with contractor’s site representative).

Information for employees is passed through many means including bulletin boards (both hard copy and electronic), watch section briefs, POW (Plan of the Week), and via "All Hands" emails or gatherings (which are held on a quarterly basis).

(2) Information integrity at VTS Houston/Galveston is maintained in accordance with the Freedom of Information Act and CG Information Security requirements. All requests are screened through our trained FOIA specialist. We have a quality check mechanism in place which happens to be a crewmember and who is assigned the collateral duty of FOIA specialist. All customers requesting FOIA specific information must request the data through this individual. Additionally, our 2001 FOIA average processing time for a total of 53 requests to date is 8.3 days compared to the FOIA requirement of 20 days.

We operate 24 hours per day. Thus, timely, relevant information is always available. Since all of the information maintained and tracked by the VTS is publicly available information confidentiality is not a significant issue.

Our Internet webpage is designed and maintained in accordance with Commandant Internet webpage requirements.

(3) Data tracked or maintained by the VTS is continuously updated. The data is provided to customers, suppliers and partners in the form of daily updates to the Inport List, Transit Log List, Dispatcher Lists.

Our more recent mechanism implemented was our webpage approximately one year ago. This information is updated on a daily basis. As the port operates and changes our webpage is changed to reflect the new data. Other recent efforts to ensure that our data and information availability mechanisms remain current with business needs and directions include implementation of CGVTS (facilitates interoperability, permits compatibility with electronic navigation devices), conversion of database distribution to an electronic format (facilitates quick turnaround, widespread dissemination of information), and increased use of Access for internal data computation and analysis (simplifying sharing of information between units).

b. Hardware and Software Quality

(1) VTS Houston/Galveston's hardware and software are CG Standard, which is also predominantly the same software our customers use, i.e. Microsoft Office, Adobe, Powerpoint, etc. This allows for our information to be downloaded and integrated once received by our customer electronically. Software and hardware is maintained and updated by CG Electronics Support Detachment Galveston, and ultimately supported by Electronics Support Unit New Orleans (ESU NOLA). The unit YN serves as one of the two system administrators for the VTS and MSO (co-located command). This ensures the unit a voice in any CCB-like decisions that are made at the local level.

(2) VTS Houston/Galveston's software is maintained and updated by ESU NOLA representatives and meets all CG requirements for security regulations. Our hardware systems are maintained locally by our system administrator and meet all CG and Federal regulations and requirements in accordance with Commandants Instructions 5200.16, Standard Workstation III Configuration Management Policy.

In addition, the CGVTS is also compatible with the DII-COE (Defense Information Infrastructure-Common Operating Environment, a computer communications system utilized by multiple governmental agencies. This allows for increased port security and Maritime Domain Awareness (MDA) in that we now have the capability to transmit vessel tracking and CGVTS information to port security enforcement units through these computer systems.

5.0 HUMAN RESOURCE DEVELOPMENT AND MANAGEMENT

5.1 Work Systems

a. Work Systems

(1) VTS Houston/Galveston is divided into four watch sections, and a technical/administrative support section, which includes senior leaders (Link *Figure ES-3*). The ten civilians employed by the unit are equally distributed among these five sections to provide stability, continuity, experience, and “corporate knowledge” (Link ES, 1.1). Watch sections are assigned to duty on a three days on/three days off schedule. While on watch a section stands twelve hours on/twelve hours off. Sections do not rotate between day and night duty (with the exception of a yearly rotation in conjunction with requalification). An survey completed by MLC Atlantic Office of Safety and Occupational Health validated that the unit employed best practices with respect to operating a 24-hour watch (Link 2.2). Several climate surveys conducted within the past three years indicated that employee satisfaction (Link 5.3) was improved by having consistency within one’s work-group, specifically, working with the same people to establish a cohesive, focused, and productive section.

To ensure the flow of information from watch section to watch section, Supervisors and controllers share the responsibility of a proper watch relief to ensure customer needs are being met. Supervisors relieve one hour earlier than controllers to maintain continuity of the watch. Watch supervisor relief is done verbally, as well as through logs, Watch Supervisor notes, and posted operational notices. The Watch Supervisor conducts a muster prior to each watch section relief to brief the oncoming section on watch-related issues, unit-related issues, and other pertinent information. Likewise, OPS and the CO ensure continuity through scheduled briefings. The briefs include an analysis of the Port Risk Index calculations to assess ongoing and forecast navigation safety issues and a discussion of measures the VTS should take in response.

The process of ensuring effective communication and knowledge/skill sharing across watch sections is a continually evolving one. The most recent example of knowledge sharing was lessons learned from several incidents that occurred on the ship channel. An Informal Incident Review board (IIR) recognized best practices frequently being used in one section and shared these with the other three sections. Once formal procedures were developed from these lessons learned, they were deployed in training and included in the Supervisor notes and the SOP. In addition, the unit has submitted a formal request to the District QPC to lead several FADE focus groups to enhance communications and sharing of best practices among watch sections. Specifically, the effort will focus strategies to address information transfer and organizational teamwork (across work group lines).

The unit also employs technology to support the information flow between work groups and support personnel. Since the installation of SWS III, unit members have created bulletin boards and Plan of the Week entries with links to various sites and interactive PowerPoint presentations

(2) Sections are required to operate within the scope of the SOP, but each has the flexibility to address the circumstances and needs of specific situations since the SOP was carefully crafted to avoid specifying “how” to complete a process. Instead, the SOP focuses on unit goals. This inherent flexibility promotes initiative and a sense of responsibility among all watchstanders. As a result, each section forms informal focus groups that routinely meet and address issues impacting operations. Supervisors challenge their personnel by soliciting feedback on training opportunities, operational procedures, equipment issues and ship channel operations. For example, the recent solicitation for volunteers to develop procedures to migrate unit operations from a manual tracking system to a computerized vessel tracking system illustrates one way in which the unit has used operations-level planning efforts to encourage employees to develop and utilize their full potential. Many procedures developed in 1975 continued to be necessary, but needed to be applied to new technologies and the dynamic demands required by the increasing flow of traffic and size of vessels calling on the port (Link ES-Challenges and Successes). Controllers were best suited to identify these issues and develop a migration plan to optimize use of the new technology and software (CGVTS). The migration team consisted of individuals who had the ability to adapt a standard software package to existing unit operations and who could also train others on the system. Unit personnel rose to the challenge and in April, the unit successfully converted to the tracking system using the procedures that they developed. This successful transition would not have been possible without the cadre of controllers who were encouraged to realize their potential as innovators and trainers.

Other formal and informal mechanisms in place to encourage and support employee development are discussed in 5.2 (Education, Training and Development).

(3) VTS Houston/Galveston employs three separate Performance Management Systems - Officer Evaluation Report (OER), Enlisted Performance Evaluation System (EPES) and Excellence, Achievement and Recognition System (EARS). Each system, as defined in the SOP, is designed to set standards of performance, receive and provide input on how each member is measured against the standards, and capture a valid and reliable assessment of each member's performance for advancement, recognition and reward.

To ensure high performance, each member must clearly understand the performance management system and how unit goals and expectations are reflected in performance evaluations. The XO conducted informal officer training that addressed how to become better performers and how to provide strong, focused supporting comments as part of the unit evaluation process. Additional guidance was also provided through a unit-sponsored area visit by a member of the (opm-3) staff. Utilizing resources from the Leadership Development Center web page, the Command Chief (CC) has developed training for enlisted personnel. The training is focused on providing supporting documentation for performance and developing skills to best evaluate and enhance the performance of junior personnel. Civilian personnel received EARS training and were also involved in the development of their own standards - Core Competencies. Upon assignment of our new XO in August, he reviewed the EARS program and adjusted the senior civilian's core competencies to align with new job requirements. Feedback systems are in place for all three workforce components of the unit and members are strongly encouraged to participate. Although the systems vary in regards to marking periods, each system supports, encourages and rewards high performance. This system is illustrated in figure 5.1-1 below

Figure 5.1-1



Employees are recognized for their contributions to the unit and the community. This perpetuates high performance. This year, the Gulf Coast was significantly impacted by Tropical Storm Alison. In June, nearly 30" of rain deluged the Houston/Galveston area. Responding to the disaster stretched the personnel and resources of each unit. The response to this event warranted recognition of unit personnel and numerous members of the maritime industry. VTS worked with area units to establish an awards ceremony which would properly recognize the efforts of each unit, their personnel and representatives from the maritime community. The Secretary of Transportation, Commandant of the Coast Guard and a member of Congress attended the awards ceremony and recognized representatives from the civilian, enlisted and officer workforce at the VTS for their superior effort. Recognizing that civilian members contributions need to be recognized, the unit's sailor of the quarter program was expanded to include civilian Watchstanders. Prior to establishing this Person of the Quarter (POQ), the Command Chief was consulted to verify support and to solicit input from the enlisted members. With concurrence of the unit, the civilians are now eligible for this recognition.

We not only feel it is important to recognize unit members, but also the efforts and assistance of the mariner and other maritime interests who help us succeed at our work (Link 6.2) by supplying us with information and needed assistance. *Figure 5.1-2* below depicts additional awards recognizing unit members for high performance and industry personnel for their support.

Figure 5.1-2

VTS Houston	Support & Assistance
LOC- Traffic Management (5 awards)	
Commendation Medal- Traffic Management (3 awards)	Certificate of Merit (7 awards)
Achievement Medal- Traffic Management (6 awards)	Public Service Award- (3 awards)
Team Award- Computer Support (8 members)	LOA- MSO Houston- facility support
Team Award- Evacuation Exercise (7 members)	Silver Life Savings- (1 award)
Team Award VHF Frequency (8 awards)	Public Service Commendation- (1 award)
Time Off Awards (10 awards)- Civilian	LOA- G & H- (2 Awards)
On the Spot Cash Award- 2 members	LOA- TGLO
Performance Awards (18 Awards)- Civilian	
Quality Step Increases (2 awards)	
Unit Commendation (2 unit awards)	
LOA –unit members (5 awards)	

(4) Bi-weekly staff meetings are conducted with the CO , XO, Department Heads and the Command Chief to address short range initiatives regarding personnel, administrative matters and scheduling issues. QMB meetings are held on a monthly basis (more frequently if needed) to discuss longer range issues (up to several years) and develop or improve on our “dash board” gauges and indices (Customer Satisfaction Index, Port Readiness Index, Human Resource Index and Supplier Support Index). The results of these meetings are routed to each watch section and posted on electronic bulletin boards where they can be reviewed by unit personnel. While senior leadership (CO and XO) succession is dictated by entities outside the command (e.g., Personnel Command) internal leadership and organizational continuity is ensured by involving a broad cross section of officer, enlisted and civilian personnel in QMB sessions and bi-weekly staff meetings. In addition, collateral duty responsibilities are transferred between individuals in a phased manner to enhance administrative continuity.

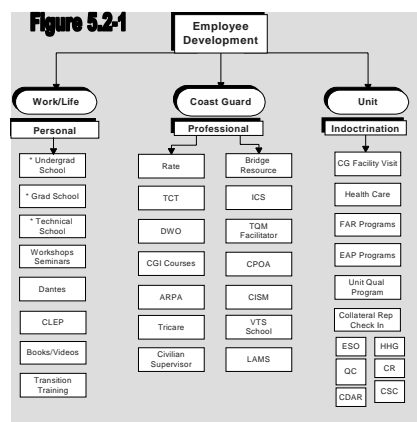
(5) VTS Houston/Galveston enjoys a stable civilian workforce with no new hires since 1995. We typically receive 8-14 military members each transfer season. The Personnel Manual has established requirements for active duty personnel seeking assignment to a VTS. The unit TC was hired in 1994 exclusively for qualification of newly reported personnel. His responsibilities include maintaining unit personnel skills and capabilities with current technology and procedures. As demands change, the TC, in conjunction with section training personnel, will develop training modules to ensure personnel receive the necessary skills and knowledge for successful job performance. The TC has several related collateral duties. He is also the unit Civil Rights Officer and Educational Services Officer. He works closely with OPS to ensure fair work practices and diversity in each watch section. This is evident in the results of the unit climate surveys, specifically “Effectiveness of Work Groups”, in *Figure 5.3-1*. The work system encourages ideas, suggestions and recommendations for use of technology, changes in procedure and modifications to administrative support or responsibilities. The use of CGVTS improvement forms and quality suggestions forms allows direct input from section personnel to the Commanding Officer. These recommendation forms have created changes to watch standing procedures, anchorage management responsibilities and broadcast notice to mariner duties.

5.2 Employee Training, Education and Development

a. Employee Education, Training, and Development

(1) Each year the unit experiences significant turnover among military personnel. The unit’s strong emphasis on training is clearly illustrated by the fact that the Training Coordinator position evolved from a collateral duty to a department (Link 1.1, 7.5).

An informal workgroup was established to develop a three pronged approach to employee development. Working with the XO, the CC and the TC, the framework was developed in an effort to balance Coast Guard needs with unit requirements and personal development. *Figure 5.2-1* is the framework used to provide each newly reported member with expectations, personal growth and professional opportunities. We feel this addresses both short term goals (unit and member) and long term goals (Coast Guard, member and family). We utilize unit, District 8 and program training funds,

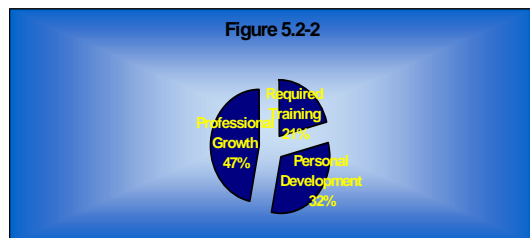


along with grants and tuition assistance, to maximize resources and develop our members.

The TC and OPS work to adjust training to best accommodate the schedule of all four watch sections. Members that cannot attend training on watch and have to attend training on their “off-time” are usually given compensatory time. Additionally, section members have the opportunity to give feedback through the TC and each section’s designated training petty officer or watch supervisor.

Training to become a qualified Traffic Control Specialist averages about five to six months (Link 6.2). Lesson plans change based on operational developments. When new skill sets are required, a training analysis team is developed to create new learning objectives to meet the new demands. Changing operational situations and the unit’s continuing effort to deploy new technology (such as new color cameras and a soon-to-be-implemented communications console) requires continual training. Programs are in place for annual re-certification to ensure members meet organizational performance requirements.

VTs personnel take full advantage of training opportunities. Working closely with surrounding units, members receive the necessary training to meet unit goals (e.g., Leadership and Management, ICS 100-400, Substance Abuse and Work/Life). *Figure 5.2-2* illustrates the training load breakdown for the command. Only 21% of the training



we provided during the past year was required by regulations or higher authority. The remaining training is provided to ensure we remain ahead of the technology curve, exceed customer demands and assist in personal development of unit members. *Figure 5.2-3* describes training initiatives during 2001 that enabled unit personnel to meet our mission, goals and objectives or fulfill individual employee needs such as personal development and career progression.

(2) The TC/ESO and OPS work together to provide professional growth opportunities to all members assigned as depicted in *Figure 5.2-3*. These opportunities extend to our reserve personnel as well. As new equipment is installed, our reserve electronics technician coordinates training with C2Cen or the manufacturer.

The command takes great pride in the fact that members of the crew take advantage of continuing educational services in the local area. The ESO actively assists members in receiving Tuition Assistance and Mutual Assistance Grants. Supervisors are empowered to accommodate flexible work schedules to allow members to attend college and vocational education while still meeting operational commitments.

During the third quarter of each year, the Training Coordinator solicits input from section members and the administrative staff regarding training requirements for the following year. Using the information from the sections, the unit requests 30T funds to meet the training demands. In light of the technology-dependent nature of VTS operations, our training requirements are distinct from normal M-type training needs. Working closely with District and Headquarters training personnel, we have been able to acquire nontraditional training quotas and computer based training to ensure unit personnel have the necessary tools to meet performance objectives. VTS Houston/Galveston has increased training funds between 1998 and 2001 by approximately 60% and has requested a significant increase in funds for 2002 to enhance the personal and professional development of employees (Link 7.3).

(3) Employee developmental and training needs are addressed through several mechanisms. Using the “indoctrination” prong of *Figure 5.2-1*, individual training needs are identified during the check-in process. Additional employee development needs are recognized during the performance management cycle, *Figure 5.1-2*. The third and least frequently used program is the “Remedial Training” program, which identifies and establishes corrective action to address watchstander performance deficiencies.) Unit incident reports and tapes of voice communications during incidents are also reviewed by the command. Lessons learned from these reviews (both best

Figure 5.2-3

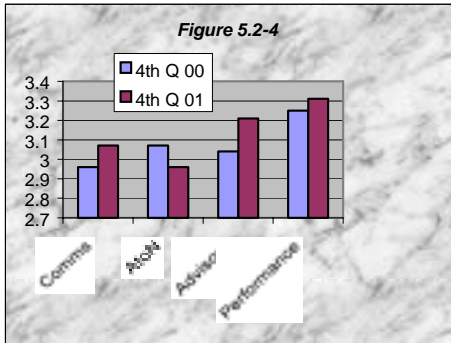
Personal	Coast Guard	Unit
UofH	ICS (100-400)	Drug/Alcohol
Transition (TAP)	TQM	Civil Rights/EEO
County College	ARPA	Work/life issues
SMU	CPOA	Wellness
Tech School	DWO	Operating Procedures
Sysco Router	IIP0	Equipment Training
Pelco	Rate	Ethics
Human Resource	OER	SAFE
Comp USA	EPES	UCMJ
CQA Examiner	CEA	Sexual Misconduct
Ztron	CM Plus	Unlimited Radar
Facilitator	ESO Training	Controller Qualification
Self Discipline	SWS III Training	Supervisor Qualification
	LAMs Training/Supervisor	Measurement
	CR Officer	EARS
	National VTS School	Remote Site Grooming

practices and suggestions for improvement) are incorporated into the unit training program and reflect developing organizational needs associated with technological change and performance measurement and improvement efforts

Using the Eighth District Military Civil Rights

Counselor/Facilitator in conjunction with results from the Small Unit Equal Opportunity Climate Survey, the unit develops training plans to address diversity awareness and equal opportunity issues

(4), (5) Knowledge and skills are reinforced through our annual-refresher training program. Members are required to take a series of exams and complete vessel rides to ensure they maintain unit standards, customer alignment and performance proficiency. For qualification, the unit has developed a mentoring program where each section has designated trainers who meet certain qualifications and have demonstrated the ability, aptitude and desire to train. This method, combined with PQS and performance objectives, ensures apprentice controllers receive proper and uniform evaluation and training. Informal



training has improved exponentially as technology improves. Using Microsoft Office applications (PowerPoint, MS graphics, Internet links, and Excel), members have the ability to individually receive and develop All Hands Training (AHT). Each section, as well as the support staff, is required to develop two AHT presentations to be reviewed by the TC for presentation to the unit each year.

The effectiveness of the training program is evaluated through training critiques and job performance rated by the mariner. Mariners also provide input on unit performance in four categories (Aids to Navigation, Communications, Traffic Advisories and overall VTS performance) as outlined in *Figure 5.2-4*. (This input comes from the unit's objective scoring of ride reports.) Through mariner feedback our training program has reduced on-the-job-training (while on the VHF) to simulating advisories using a CGVTS training platform. Significantly, mariners rate the quality of the traffic advisory provided by the controllers and the overall performance of the unit (reflecting timeliness, professionalism, efficiency. These two measures directly reflect the success of the unit's qualification effort and the comments captured in ride reports are reviewed by the TC in conjunction with his evaluation of the unit training program. *Figure 5.2-4* indicates an increase in advisory quality and unit performance this year in comparison with the same period last year.

5.3 Employee Well-Being and Satisfaction

a. Work Environment.

Our close proximity to the Houston Ship Channel and the associated petrochemical facilities in the surrounding area have made us acutely aware of the potential hazards with regards to chemical release, fire, and exposure to pollutants. In conjunction with MSO Houston, both units receive annual Customer Assistance and Training (CAT) team visits from ISC New Orleans to ensure the necessary safety practices are in place. The focus of the training is to evaluate and heighten the awareness of safety in the workplace and the impact of surrounding environment. A significant employee concern arose in January when an asphalt plant had completed construction and was in partial production. This plant stands within 100 yards of the Coast Guard and operates around the clock. To address the concerns of the unit, an air quality survey was conducted to establish a baseline prior to production with an additional survey to be conducted upon full build out of the plant (in 2002). The survey will be reviewed and appropriate action taken to ensure proper health and well-being of unit employees. The EMO acts as the unit Safety Officer and uses the CAT team feedback for process improvement. The CAT visits have also been used to leverage funds from District Eight and CEU Miami to complete projects that exceed unit-funding capabilities (raised flooring in equipment room, tower rehabilitation, remote site refurbishment, lightning protection for all sites (\$49,000 this year) and excess equipment removal from unit and remote sites).

Using transit statistics (Link *Figure 7.1-4*), results from the risk analysis conducted by Rensselaer Polytechnic Institute (RPI) and the Ports and Waterways Safety Assessment (PAWSA), the unit reviewed staffing standards to ensure work groups were adequately staffed based on workload and performance demands. The unit also recognizes the significant difference in environmental factors a 24 hour operation requires and assigns resources according to those conditions and workload. The recently deployed Port Risk Index considers section strength in relationship to traffic conditions and weather. A threshold has been established and allows for augmenting section personnel when

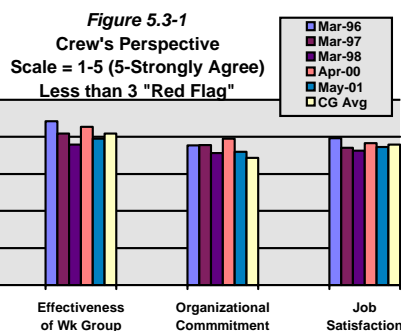
necessary (amber or red level) Results from a earlier ergonomic and psychosocial assessment (Link 5.1) validated the current watchstander assignment practice, concluding “biological disruptions caused by adverse shift schedules/rotations seems to be well understood by unit”. Feedback from the assessment led to the purchase of adjustable chairs, better closed-circuit TV monitors and indirect lighting (adjustable for each watch positions) throughout the operations center.

b. Employee Support and Satisfaction.

(1) VTS Houston/Galveston recognizes the mix of differences and similarities at all levels of the organization. Although the unit has limited control on the make-up of its personnel, we ensure the environment does not advantage or disadvantage any member of the workforce. The unit ensures fair and equal treatment of all employees. This is confirmed by climate surveys conducted by DEOMI, D8 performance consultants, and unit-developed surveys (Link 1.1). Using the results of the surveys, the unit maintains a stable workforce where military and civilian members are equally distributed throughout the sections. The unit can also use survey results to tailor individual training and education efforts. Results of the surveys have led the unit to look more closely at training related issues and alignment between operational demands (link 5.1). Education and awareness training is conducted through the joint Human Relation Council (HRC) with MSO Houston to ensure we recognize and take full advantage of cultural and ethnic differences of our employees. For instance, in March, the HRC sponsored a fun-run/walk around the base with historical markers along the way depicting the contributions and significant events of women in the CG and public/private sectors.

(2) VTS Houston/Galveston dedicated over 606 hours of training to work-life issues and family program services in 2001. In addition, members personally meet with each collateral duty officer to ensure they receive accurate and current information regarding medical services, schools, childcare, business opportunity for spouses, continuing education opportunities and other support services in place. The unit’s watch schedule permits us to adjust watchstanding requirements to accommodate an individual’s day care, continuing education, and care for new born children needs. The ESO provides rate advancement services, coordinates funding assistance, and works with college correspondences providers to administer test for unit spouses. Military and civilian personnel receive the same consideration for these services. The XO and CO coordinate All Hands events and Personnel Inspections at times to least impact unit members. Holding All Hands meetings late in the evening or early morning when the watch changes minimizes the impact on personnel during their “off time”. The unit Wellness Coordinator provides weekly health and fitness tips and coordinates free cholesterol screening with information regarding risk profiles, exercise plans and counseling. The Morale Officer maximizes unit funds for section parties, cookouts and family events. Morale funding is based on the number of billets at the unit, which does not include civilian positions. However, we ensure all members of VTS Houston/Galveston benefit from our morale funds. A recent example of employee support is the unit renovation project. The administrative spaces have been reconfigured to allow construction of a locker room for unit personnel. (Currently, unit lockers are stored in a public stairwell. This configuration violates the county fire code and the lack of privacy minimizes the lockers’ usefulness.) The locker rooms will be complete by the end of January 2002.

(3) Identifying member needs is followed by ensuring that resources are in place to meet those needs. Surveys, Department Head interaction and open-door policies are the tools that pinpoint those needs (Link 1.1). *Figure 5.3-1* depicts the results of the last five EEO surveys and identifies areas for improvement. The most recent survey results indicate that “workgroup effectiveness” and “job satisfaction” measures are lower than in the preceding assessment. Comments from the QPC survey attribute job satisfaction decline to the equipment issues (having the right tools). Working with the EMO and C2Cen, we are addressing these issues and will be installing new communication consoles in January of 2002. The command has also initiated a study group effort to analyze work group effectiveness issues. (Preliminary analysis of survey results and comments suggests that intra-section cohesiveness is strong but inter-section relationships need to be emphasized.) These initiatives are reflected in the increased scores of the QPC survey for Senior Executive Involvement and Senior Executive Visible Commitment (Link *Figures 1.1-3 and 7.3-1*)



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Employee turnover is uncontrollable with regards to military personnel. However, 8 of the 28 military Watchstanders (28%) are currently in their second tour at the unit or on extensions. Our civilian workforce consists of ten employees averaging 12.2 years of experience, with 50% of the civilian employees having been previously employed at the unit as enlisted personnel. The unit has had great success retaining (through active participation in the CG reserves) the few individuals released from active duty.

(4) Internal surveys are used to determine priorities and identify where the command should focus their efforts. Survey results indicated the most significant area of improvement is equipment capabilities. Equipment degradation prohibits members from meeting mission objectives, affects morale, and impacts employee satisfaction. In response to the surveys, personnel from C2Cen continue to address equipment issues effecting performance capabilities. A dedicated effort is currently underway to correct deficiencies in closed-circuit TV, VHF communications and remote connectivity. The past year has seen dramatic improvements in the reduction of VHF communication congestion on our operating frequency. This reduction was made possible by feedback from informal surveys and recommendations from a focus group of representatives from the unit and the maritime industry.

6.0 PROCESS MANAGEMENT

VTS business and support processes are specified in *Figure 6.1-2* and *Figure 6.2-1* and documented in the unit SOP. The unit SOP is designed with maximum flexibility and sets requirements based on customer needs, unit needs, and regulations. It gives specific direction on “what” the unit goals are and is more flexible on “how” to accomplish the goals. The content of the SOP is maintained by the Operations Officer, who may make revisions as necessary due to changing needs, new tools, or new operational demands.

6.1 Product and Service Processes

a. Design Processes

(1) Our design process for products/services and their related delivery process is shown in *Figure 6.1-1*. This process is managed by the QMB and included in our Strategic Development Process (Link *Figure 2.1-1*).

(2) The basic and essential products/services VTS supplies to customers are listed in *Figure 3.1-1* and are not likely to change significantly in the short-term. However, certain factors such as technological advances, changing customer needs, and changing mission requirements can drive product/service changes. These changing customer and/or market requirements are incorporated through the design process illustrated in *Figure 6.1-1*. For example, the recent emphasis on port security has impacted how the VTS interacts with area commands (unit-developed electronic link to share VTS tracking data) and members of the public (limited distribution of import vessel lists and transit logs). The specific design process allows the unit to assess these impacts, implement operational changes in response and assess the efficacy of these changes on customer requirements.

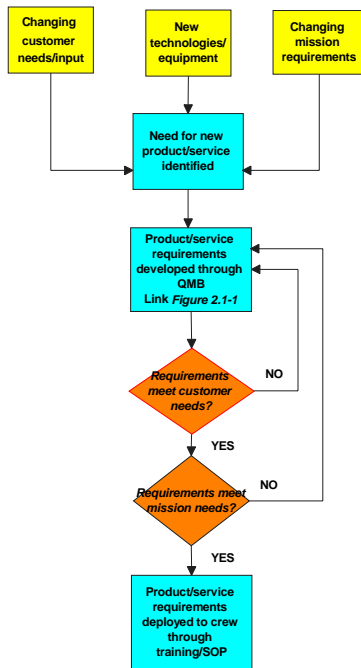
(3) New technology is an important part of our Strategic Planning Process and is an element of one of our Key Strategic Objectives (Link 2.1). The current expansion of the Houston Ship Channel, along with the development of a container terminal in both Texas City and the Bayport Channel (Link ES – Challenges and Successes), will increase traffic flow (long-term effect) and cause traffic disruptions based on the construction/maintenance issues (short-term effect). Since VTS resources are not likely to increase (Link 2.2), technology advances will be necessary to continue to provide the same products/services to our customers in the face of this increased demand. One example is AIS, which will reduce the amount of radio communications and allow for the accurate identification of vessels. We are at the forefront of AIS implementation in the Houston/Galveston area. We are working with the

maritime community to raise awareness and convey their AIS concerns to our program manager through the ride program (Link 1.1) and stakeholders meetings. VTS has also designed a webpage that provides a greater level of access for our customers by allowing them to view any of our written products, such as daily reports of channel conditions, to receive updates on long-term projects and significant incidents, and to send private queries/file information reports with us electronically.

(4,5) Our design processes incorporate estimates of cycle time and waste to determine if the product/service will meet customer and mission needs. If it is determined that needs will not be met with the proposed design, the product/service is re-examined by the QMB to find a design that will meet those needs, as shown in *Figure 6.1-1*.

Our design processes are subject to annual review by the QMB (Link *Figure 2.1-1*) to identify any areas for improvement. This review includes an analysis of any employee or customer feedback, any lessons learned from the past year, and any best practices observed from other organizations. Within the past year our annual review has implemented changes based on employee input concerning watch rotation issues (tested an alternative watch schedule), equipment performance concerns (tested multiple nighttime camera configurations) and quality of life suggestions (work space renovation). In addition, we have implemented delivery system changes (addition of third voice frequency) to meet key operational performance requirements (timely response to calls).

Figure 6.1-1
PRODUCT/SERVICE DESIGN PROCESS



(6) We use training and exercises/drills to test any new or improved products/services before integrating them into the SOP. An example of this was our implementation of CGVTS. We developed a Natural Working Group (NWG) to construct a training syllabus and develop a deployment timeline to train and fully implement both systems into the watch without loss of effectiveness to customers. This NWG included realistic exercises for employees to be trained on which allowed us to examine possible faults and correct prior to final implementation. Each training exercise was followed by a de-brief with a NWG member which included lessons learned and recommendations that were implemented into the training syllabus and SOP. Prior to final cutover the computerized tracking system was operated alongside the manual tracking system to identify any latent operational issues and resolve them before final implementation, thereby facilitating trouble-free and on-time delivery of the new system.

b. Production/Delivery Processes.

(1) Figure 6.1-2 below displays our key business processes and their requirements. The requirements are based on standards that are set by both external and internal customers. The controlling strategy identifies guidelines that we employ to ensure that the specified business processes achieve the identified performance requirements.

Figure 6.1-2 – Key Business Processes

BUSINESS PROCESS	REQUIREMENT	STANDARD	MEASURE-MENT	CONTROLLING STRATEGY
Traffic Advisory	>Effective >Timely >Accurate	>Unit SOP >G-MWV	>In 30 seconds ># of transits w/o incident <u>and</u> w/o a PI >Sampling	>Training >Supervisory oversight
AtoN Discrepancy (Reporting & Notification)	<ul style="list-style-type: none"> Collect Verify Report (For repairs) Notify customers 	<ul style="list-style-type: none"> Unit SOP D8 SOP ATON Manual 	<ul style="list-style-type: none"> Not to exceed 2HR Sampling Increase in Self-Report AtoN Disc's 	<ul style="list-style-type: none"> Training Job aids GRU feedback AtoN knockdown Work Group
Outreach Programs	>Quality Customer Input >Active participant >VTS presence Requested	>Customer needs/Request >Unit SOP >Staff Attendance	>CSI >Quality CCF's >Ride Report Analysis >MAR	>Training >Lessons learned >Best practices >External Input >PTP
Channel Navigation Maintenance & Improvements	<ul style="list-style-type: none"> Reliable Safe NAV Minimal restriction on commerce 	<ul style="list-style-type: none"> Customer needs COE projects 	<ul style="list-style-type: none"> Waste (# of transit delays) Customer satisfaction 	<ul style="list-style-type: none"> D8 SOP SOP Customer outreach
Leveraging New Technology & Equipment	>COTS >Efficiency >Supportability >CG Standard	>Unit SOP >COTP QRC	>EEI >EPI and ERI	>CG Directive >CFR >Training >SOP

(2) Several of our key business processes, including the Traffic Advisory and AtoN Discrepancy, operate on a continuous basis and therefore are managed by the watchstanders. The watchstanders report to the Watch Supervisor, who is ultimately responsible for ensuring each requirement is fulfilled for each process. However, there is also a level of command oversight involved with these process measurements. The Training Coordinator (TC) randomly performs sampling in the VTC, which consists of observing the watchstanders to ensure the requirements are being met.

The TC also performs measurements during this period relating to the time for the advisory and the time for AtoN notification. The incident review process (Link 1.2) ensures that the requirements for Incident Management are being met. Command-level oversight is accomplished through periodic presence (on a daily basis) in the operations center, on-the-channel interactions with VMRS users (monthly basis) and business interactions with customers (weekly basis).

(3) Measurements for each key business process are included in Figure 6.1-2. These metrics were developed and have been utilized in various ways as in-process measurements to better manage our product and services to our customer. For example, the TC manages an evaluation matrix of customer input through our Ride Program, Outreach Program and CCF's. The matrix is designed to evaluate the quality of input as well as to weigh instances of reoccurring comments and queries. The four customer inputs measured are Communications, VTS performance, AtoN, Traffic Advisories. Output/results from the matrix have driven AtoN realignment and data collection issues and development of a plan to add a fourth communications site (to eliminate weak signal areas along the channel).

(4) Whenever possible, we utilize CG resources to perform inspections, tests and audits to minimize the financial costs associated with those events. Examples are MLC Compliance inspections, OPEVAL conducted by our program manager, and MLC Customer Assistance Training (CAT) visits to review safety issues. In addition, many different checks and balances are utilized within VTS to address equipment performance, equipment preventative maintenance and watch procedures issues. From an operational perspective, the entire CGVTS system gets rebooted by the WS every Monday morning. In addition, the WS is required to switch each radar to its back-up system every week, also on Monday morning. Preventative equipment maintenance is also a key process.

Contractor suppliers consistently perform all required maintenance. Our contractors utilize similar preventative maintenance spreadsheets to the CG PMS cards and track weekly, monthly, quarterly, or annually requirements as necessary. All of these procedures in place help maintain and prevent untimely equipment casualties. The unit EMO performs quality assurance functions on work performed by maintenance personnel and the CO reviews that effort as part of the unit inspection program.

(5) VTS Houston's business processes are re-analyzed and improved through the QMB's annual Strategic Development Process (Link *Figure 2.1-1*) and are shared with other VTSs through the best-practices system and monthly activity reports.

6.2 Business and Support Processes

a. Business Processes.

(1) Our key business processes are detailed in *Figure 6.1-2* and are highlighted in our Balanced Scorecard. Two of our key business processes for business growth and success are our outreach programs and leveraging new technology and equipment. The most critical process, however, is the traffic advisory since this is the key focus of unit-level interaction with external customers.

(2) The requirements for our key business processes are included in *Figure 6.1-2*. Some of our key requirements are customer compatibility with new technology, quality customer input, National VTS compatible technology, and technology that enables controllers to provide more timely, accurate, and effective reports to our users. All requirements are determined through an informal QMB annual review and monthly by the TC and senior leadership as customer outreach input is evaluated and forwarded throughout the command for comment (Link *Figure 2.1-1*).

(3) Through key measures such as the Ride Report Analysis and Customer Satisfaction Index we can assess our performance in each of the business process areas. In addition, our outreach programs such as rides, Seaman's Church Institute, random visits to towboat dispatchers, and interaction with customers provide the opportunity for feedback to help manage our business processes.

(4) Key business processes are designed, evaluated and implemented using the same process set forth in *Figure 6.1-1*. The approach is a dynamic one with a consistent underlying objective of enhancing daily operations and ensuring long-term growth and continued operational excellence. Recent refinements to the traffic advisory process, for example, have focused on making it more effective and timely.

(5) We minimize overall costs associated with inspections, tests and process or performance audits through a periodic, proactive program of internal self-assessments. For example, one test of our equipment performance capability and preventive maintenance success is conducting weekly reboots of our CGVTS tracking system. During reboots the downtime of our tracking system is marginal compared to the downtime associated with a computer crash had the reboots not occurred.

(6) Business processes are evaluated and modified to enhance unit performance through a review cycle that resembles the design process contained in *Figure 6.1-1*. During spring 2001 the QMB held a district-facilitated offsite workshop to refine the processes identified in *Figure 6.1-2*. We also modify these processes in response to feedback received from our customers. We share lessons learned, process improvements, and changes in procedures as part of our outreach. We then analyze the input at a QMB meeting and decide if an action group is appropriate for detailed investigation/analysis on the matter. Minor changes to existing procedures can be easily incorporated without the need for further initial study.

b. Support Processes.

(1) Our key support processes are detailed in *Figure 6.2-1*.

(2) The requirements for our key support processes are included in *Figure 6.2-1* and were developed and managed by the QMB at monthly meetings and through our Annual Review (Link 6.1). We followed a format similar to our Strategic Development Process (Link *Figure 2.1-1*), using customer and employee feedback as inputs. For example, the administrative department uses electronic tracking to manage civilian employee attendance and payroll verifications, retirements, and Good Conduct awards among others. This matrix is tracked on a daily basis to verify what reports, supply orders, or notifications need to be made. These requirements are continually reassessed to ensure they align with and fully support associated key operational requirements. For example, in response to feedback from unit personnel, the administrative department has started to shift hours twice per week to partially overlap night shift hours to be able to handle crew needs in person.

(3) The key performance measures and indicators used for the control and improvement of the unit's support processes are set forth in the fourth (standards) and fifth (measurements) columns of *Figure 6.2-1*. Both internal and external feedback is used in managing these processes. For example, the syllabus used in our training and qualification program may be updated to reflect internal (i.e. trainee training critiques) and/or external customer

Figure 6.2-1 – Key Support Processes

SUPPORT PROCESS	OUTPUT	REQUIREMENT	STANDARD	MEASUREMENT	CONTROLLING STRATEGY
Training & Qualification	>Trained Controller >Trained WS	>Capable >Effective >Efficient	>National VTS School >Unit SOP	>Training: CT =5months(CT) =3months(WS) (Link 7.5) >Customer input	>TC >Complaint process >QMB
Technical Support	>Operational equipment	>Reliable >Timely	>Contract specs Req's >MLC	>Customer input >Equip downtime >ECR's	>ECR's >EMO >QMB
Public Relations	>Public support	>High quality >High quantity	>Unit SOP >PA Manual	>Customer input >Dist 8 PAO Assessment ># of tours	>PQS >District 8 PA
Administrative Support	>T&A >Records >Leave/Orders >Procurement	>Accurate >Timely >Secure >Accessible	>MLC >FINCEN SOP >Unit SOP	>Unit personnel feedback SOP >CT = 10 days (T&A); 2 days (Leave/Orders)	>QPC Assessment >MLC Compliance Inspect'n >JSS

feedback. This support process is enhanced by the ride program, outreach program, and lessons learned from informal incident reviews and informal trainee training critiques. Recommended changes in VTS procedures are addressed either in the QMB or NWG and then if agreed upon, implemented into the VTS watch standard qualification.

(4) Support processes are analyzed and designed in a manner that closely resembles the process

illustrated in *Figure 6.1-1*. This process identifies unit operational requirements and targets underlying support functions (training, equipment, customer education and outreach, and administrative issues). The functions and related measurement standards are reassessed periodically in conjunction with adjustments to business processes.

(5) The measurements shown in *Figure 6.2-1* are evaluated by the QMB, which in turn makes decisions to adjust the support processes. VTS Houston's support processes are re-analyzed and improved through the QMB's annual Strategic Development Process (Link *Figure 2.1-1*). In addition, we use the identified standards and measurement criteria to ensure that key support processes meet performance requirements. Customer feedback is determined via our listening and learning strategies (Link 3.1) and used as a measurement in every key support process. The performance of the equipment support contractor is closely measured through "equipment casualty reports" (ECR's) which describe the equipment discrepancy, action taken, final disposition, total equipment downtime, and response requirement evaluation. The EMO reviews each ECR to determine the contractual requirement and forward up the chain of command. The EMO also holds a weekly meeting with the site technicians to review the equipment casualty reports and provides supervisory feedback. Through this system we are able to meet our key requirements of technical support and in addition, operational performance levels are documented and can be submitted to MLC.

(6) Whenever possible, we utilize CG resources to perform inspections, tests and audits to minimize the financial costs associated with those events. Examples are MLC Compliance inspections, OPEVAL conducted by our program manager and MLC Customer Assistance Training (CAT) visits to review safety issues. Internally, we minimize costs by carefully selecting objective standards (see *Figure 6.2-1*) that can be used to assess the efficiency and impact of the various support processes. For example, on a monthly basis the EMO updated the Equipment Readiness Index (a measure of the operational availability of various types of equipment in the VTS). This figure is combined with an Equipment Performance Index (a measure of the operational suitability of the same equipment) to produce an Equipment Efficiency Index. This indicator provides a ready measure of equipment performance and supplier support. The indicator also costs associated with performance audits since it provides precisely the same data in a continuously updated format.

(7) VTS Houston/Galveston shares many of its lessons learned, process improvements, and changes in procedures through MLC briefs, Bi-weekly Reports, and all hands gatherings with the crew. We solicit input as part of this process and review suggestions at QMB meetings.

6.3 Supplier and Partnering Process

a. Supplier and Partnering Process

(1, 2) *Figure 6.3-1* clearly depicts VTS's system of key suppliers and the product/services provided. In most cases CG organization, geographic location, or regulatory requirements define supplier selection. However, the critical supplier for Technical Support is selected by VTS in partnership with the MLC (Link 6.2). **Strategic suppliers** provide products/services that have a long-term affect on our mission, while **tactical suppliers** provide products/services that affect our mission on a daily basis. **Support suppliers** provide the needed administrative

Figure 6.3-1 (= STRATEGIC SUPPLIER)**

TACTICAL SUPPLIER	PRODUCT/ SERVICE	PERFORMANCE REQUIREMENT	MEASURE
** G-MWV	>Billeted personnel >Program directives	>Necessary quantity >Timely	>100% authorized strength >Anecdotal feedback
MSO HOUSTON	>COTP Authority/ Direction	>Reliable >Timely >Available	>Customer input >On-Time Delivery
GROUP GALVESTON	>AtoN, SAR, LE Response >Message Management	>Accurate >Timely	>Critical AtoN Disc's within 24 hrs >Anecdotal feedback
VMRS USERS	>Mandatory CFR info >SAR information >Channel hazard/ AtoN information	>Accurate >Relevant >Timely	># Transits w/o a Preventable Incident (PI) >Violation Forms
VMRS NON-USERS	>SAR information >Channel hazard/AtoN information	>Accurate >Relevant >Timely	>Violation Forms

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and technical products/services we need to function as a quality unit.

(3) We use various methods to ensure that suppliers meet their performance requirements. For example, VMRS Users are required to provide information to VTS Houston/Galveston at designated times of their transits. If they do not provide this information in a timely manner, the watchstander will actively solicit it from the user.

Depending on the situation, the watchstander can choose to complete an internal Violation Form on the user and route it through the chain of command. This form explains the violation and what action was taken by the watchstander. Where appropriate the command will follow-up with a call to the operating company to explain the violation and suggest procedures to ensure that it does not happen again. Weekly conference calls between the area (Houston and Galveston) units, area CO meetings, staff briefs, and EMO liaison briefs with ESU/C2CEN/MLCLANT provide an opportunity for VTS to give feedback to several suppliers, such as to Group Galveston regarding AtoN issues and to MSO Houston regarding waterways issues. VTS provides feedback regarding equipment status to other suppliers, such as G-MWV, MLC LANT, and C2CEN, via CASREPs. Key performance measures for each supplier are contained in *Figure 6.3-1*. These measures are shared with suppliers and partners and, in certain circumstances, incorporated into unit- and service-level assessments of performance.

(4) We are in the initial stages of implementing a strategy for minimizing overall costs associated with inspections, tests and process and performance audits. We believe that the performance requirements and refined measures identified in *Figure 6.3-1* will permit us to objectively evaluate performance with an indicator that provides a sufficient forecast to redirect or reassess supplier performance before it adversely impacts unit operations. Deficiencies in certain supplier performances (such as the VMRS User category) are immediately apparent and easily corrected and thus do not generate inspection- or test-related costs.

(5) We work closely with all suppliers/partners with the goal of improving performance on both sides. The primary way we provide assistance is through our feedback. Our main focus is inspiring suppliers and partners to adopt the same proactive attitude toward waterways management that controllers in the VTS practice on a continual basis. We recognize suppliers and partners who are particularly cooperative in this regard. (Link 5.1-2).

(6) We constantly strive to improve our supplier/partner relationships through positive interaction with these groups. Examples of this are the ride program, HOGANSAC, and outreach program (Link 1.1). We analyze our key supplier/partner processes through the QMB's annual Strategic Development Process (Link *Figure 2.1-1*), and improvements are communicated to the organization through training, the SOP and the chain of Command (watch section briefs, messages from the unit quality coordinator).

7.0 BUSINESS RESULTS

Through the efforts of the QMB, all results are under continuous improvement and the command takes responsibility for the best possible stewardship of all our resources, including people, funds, and facilities. Results for this year were based on measurements from December 1999 to December 2001.

7.1 Customer Focused Results

a. Customer Results

(1) *Figure 7.1-1* shows the results of the VTS National Survey conducted in late 1999 by the Office of Vessel Traffic Management. We separated the results into categories relating to our key business and support process measures (Link Figure 6.1-2, Figure 6.2-1). Section 3.2 explained our customer satisfaction determination methods noting that the results of this survey were extremely positive. Unfortunately, the VTS program manager has chosen not to release survey results for other VTSs and did not repeat this survey in calendar year 2000 so it is difficult to use these as a benchmark for identifying trends or measuring improvements in service quality.

Results of 1999 VTS National Survey
Scale 1-5: 1 = Poor, 5 = Excellent

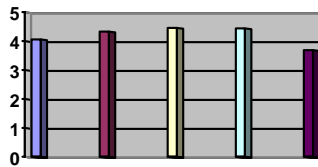
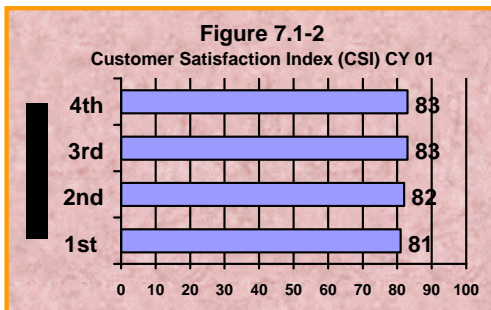
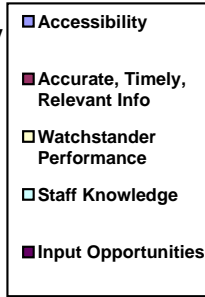


Figure 7.1-1



In addition, we have developed and begun analyzing our own Service Quality Index derived from our CCFs and Ride Report Analysis. Figure 7.1-2 shows our customer satisfaction index in relation to the number of complaints that are either submitted via our webpage or completed after personal customer contact via radio, phone, or during a ride on the ship channel. The QMB created the CSI and, after considerable analysis of raw data (including subjective comparisons to the 1999 national survey), established a minimum threshold of 75. The data collected during calendar year 2001 represents our first full effort at collecting and evaluating this data. The QMB will be

reviewing this along with all other measures and indices during our Annual Review (Link Figure 2.1-1)

(2) The unit tracks a number of key measures and indicators that we use to assess current levels and trends in customer value and relationship-building. These range from measures of operational effectiveness to indices that reflect customer retention and system growth. Historically, the Bolivar and Pelican Cut areas have been difficult areas to navigate (cross currents, winds, crossing traffic and less experienced mariners). As a result, there are generally, a significant number of groundings in these two areas of the VTSA. Through increased vigilance, improved technology (current and tide meters), and waterways management (AtoN changes), VTS Houston/Galveston has contributed to a decrease in the frequency of groundings in these areas. *Figure 7.1-3* represents the

Figure 7.1-3
TOTAL GROUNDINGS 89-01

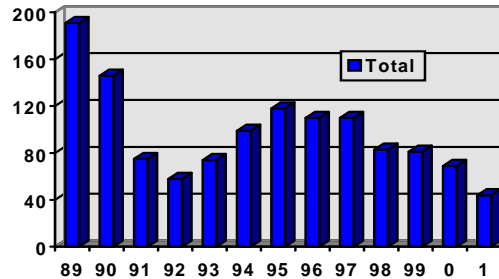
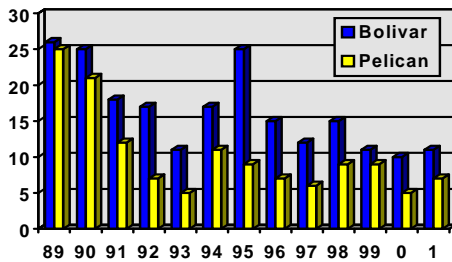


Figure 7.1-4
BOLIVAR/PELICAN CUT GROUNDINGS 89-01

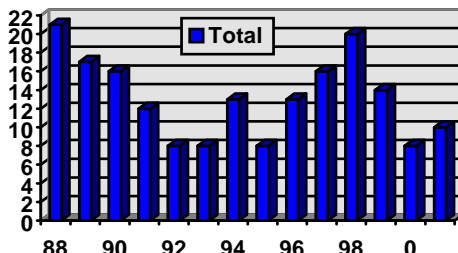


Total Transits are a measure of customer satisfaction because they are an indicator of how many customers are using our services. The increasing number of transits (2001 being a minor exception primarily due to a heavy fog season that closed the port for an extended period of time) indicates that existing customers are coming back to utilize our services and that new customers are constantly being introduced to the VTSA.

b. Product and Service Results

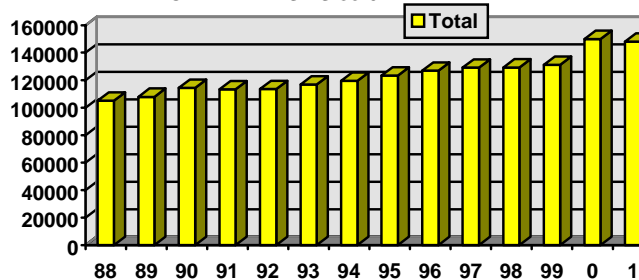
Data on the number of collisions (Figure 7.1-6) are a measure of customer satisfaction because they quantify performance results. Reducing collisions between users is one of our key strategic objectives (Link Figure 2.1-2) and also a vital part of our mission (Link ES). The lower number of collisions in 2000

Figure 7.1-6
TOTAL COLLISIONS 88-01



Galveston is the telephone (Link 3.2). Since 1999 we have tracked the number of telephone calls received in the VTC to obtain information on which customer segment utilizes that access method. This measure applies to other agencies and organizations, such as the Port of Houston, INS, and MSO/MSU, which interact informally with the VTC on a daily basis for routine information. Figure 7.1-7 highlights the past three years of tracking our telephone communications with our customers/supporters and shows a noticeable decline from each organization. Simultaneously, our Internet webpage, since inception in February 2000, has had approximately 1500 visitors and over 5000 hits. This

Figure 7.1-5
TOTAL TRANSITS 88-01



with a 12% increase in transits indicates a safer waterway for users and reduces the amount of personal, financial and environmental damage associated with collisions throughout the year. There was a slight increase in the number of collisions in calendar year 2001. Preliminary analysis suggests that this reflects increasing congestion on the waterway (due to dredging operations in critical areas of the channel and high traffic volumes after weather-related channel closures). However, the QMB will more fully evaluate this.

One of the main access methods non-VMRS customers have to VTS Houston/

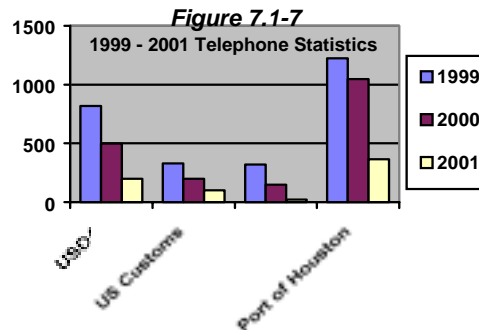
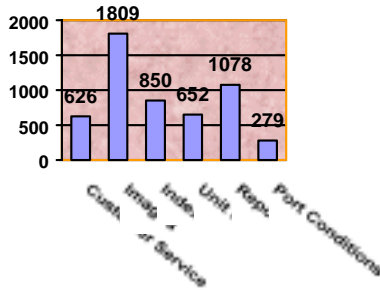


Figure 7.1-8
2001 Monthly Average for
Web-Page Visits/Section

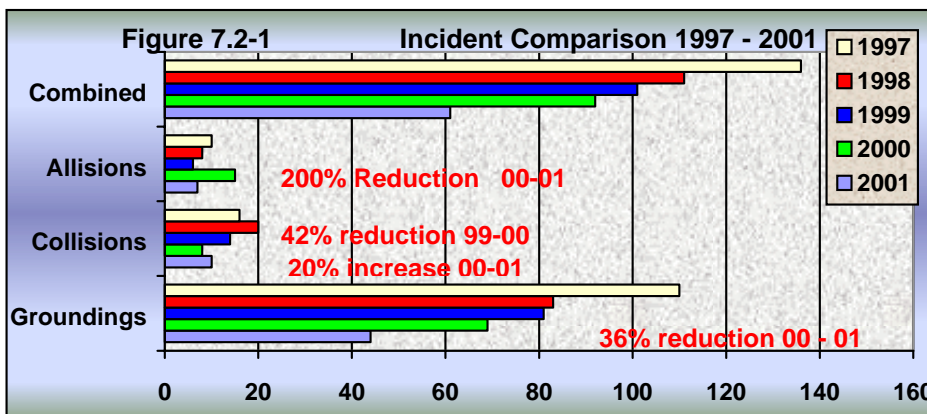


increase in webpage functionality has had a direct impact on our WS's not being distracted by data inquiries over the telephone that can be answered through the webpage. Figure 7.1-8 shows the number of times each section of the webpage was visited over the past year and a half. The significance of this is the amount of individual webpage section visits that were made and the decrease of telephone calls the VTC must reply to for user requests.

7.2 Overall Mission and Financial Performance Results

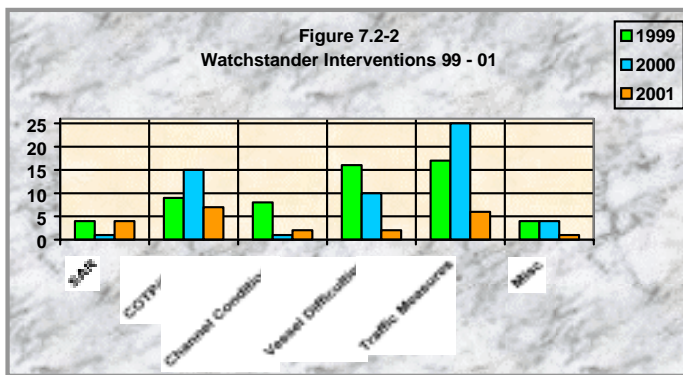
a. Mission and Financial Performance Results.

(1) Our key strategic objectives (Link 2.1) outline a reduction from year-to-year in collisions, allisions and groundings. Figure 7.2-1 below shows that we have consistently met our objective for groundings. However, the data on allisions and collisions have required additional analysis. Earlier this year, the QMB reviewed the data in detail and identified additional areas for emphasis. As Figure 7.2-4 indicates there was an increase during CY 2000 with 15 allisions occurring. QMB analysis revealed that 9 of the 15 were either Interstate 610 Bridge (I-610) or dredge related. After our annual review the QMB and senior leadership spearheaded two significant efforts- a bridge allision working group and a quarterly dredge conference. In addition, the unit adopted new watch procedures to minimize the potential for further bridge allisions. For example, controllers now record a ship's aircraft if that vessel is to transit beneath the I-610 and verify the vertical clearance of the bridge with the Houston Port Authority if reported aircraft exceeds a specified threshold. We also now provide the location of all dredge equipment in addition to the dredge in all appropriate traffic advisories to our users whether the dredge is in the channel or outside of the channel. The annual review was essential in identifying these and other areas of improvement.



(2), (3) Another key objective listed in Figure 2.1-2 concerns our equipment downtime. This is a measurement for our Technical Support key support process (Link Figure 6.2-1) and the results are discussed in 7.4 (Link Figure 7.4-1). The organizational return associated with this effort is difficult to assess. The significant increase in camera degradation is due principally to the prototype testing initiatives we have been involved with. This should yield benefits for the national VTS program in future years (since our efforts will result in the adoption of a standard camera) but have had a short-term negative impact on equipment availability at this unit. Conversely, the installation of 2 new radars at our Galveston remote site in early 2001 is directly reflected in a significant decrease in radar downtime. This has significantly reduced contractor maintenance and overtime expenses.

One important measure in our balanced scorecard (Link Figure 4.1-1) is the number of interventions (see glossary) submitted by watchstanders. Interventions ensure customer alignment with all applicable federal/COTP regulations, promote safety, and reduce the potential for incidents. Analysis of interventions provides us with information on VTS participation rates, how effectively customers communicate with each other, and customer awareness of COTP policies/regulations. Interventions are also a mechanism for measuring the proactiveness with



which watchstanders approach their responsibilities. We grouped the interventions into distinct categories based on the underlying operational situation. COTP/CFR violations deal primarily with vessels not checking in and out of the VMRS as required. Channel conditions cover reports, either by a customer or watchstander, identifying an object (stump) or circumstance (weather, currents) that is potentially hazardous to waterborne traffic in the VTSA. Vessel difficulties reflect calls from customers who require assistance,

either because physical damage affects the maneuverability of their vessel who are unfamiliar with the VTSA and need guidance to safely complete their transit. Traffic measures document a watchstander's active effort to ensure that vessels make and understand passing arrangements. *Figure 7.2-2* shows the comparison between categories.

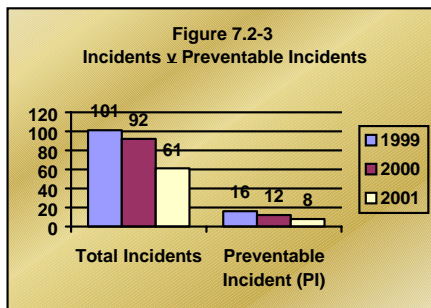
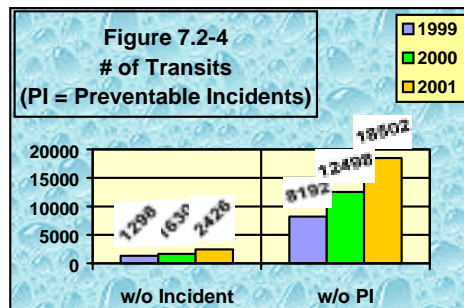


Figure 7.2-2 indicates a distinct decrease in the amount of interventions during calendar year 2001. The QMB is in the process of evaluating this anomaly. Preliminary explanations include increased proficiency on the part of the mariner or a hesitation by watchstanders in documenting proactive events.

Our business growth is best reflected in the increase in transits shown in *Figure 7.1-5*. We have not yet discovered a feasible method to calculate the financial savings customers receive by utilizing our services. We do have a significant financial impact on the community (*Link 1.2*) through our assistance in and

prevention of incidents, which would otherwise disrupt the flow of traffic along the Houston ship Channel. For example, a controller recently observed a facility fire at a channel-side facility. The watchstanders quickly notified all essential personnel including the facility itself, which was not aware of the fire. By identifying critical scenarios and proactively responding our controller may have saved both adjacent refineries from catching fire and thus admitting unidentified toxins into the air which could have polluted neighboring housing communities. While other interventions are less dramatic, VTS assistance during an incident and the overall reduction in the number of incidents reflected in *Figure 7.2-1* is an important illustration of the marketplace impact and mission accomplishment of this unit.

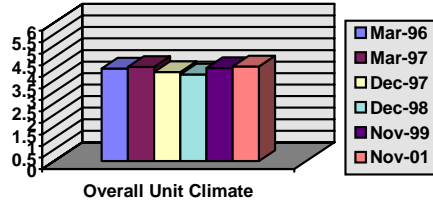


One measure that directly documents unit effectiveness is the number of preventable incidents compared to the number of overall traffic management incidents. *Figures 7.2-3* and *7.2-4* identify a steady decrease in the number of overall incidents and an increase in the number of transits without incident or preventable incident. As our balanced scorecard indicates (*Link Figure 4.1-1*) the number of transits without incident is an objective measure that we started tracking three years ago and use to assess mission accomplishment.

7.3 Human Resource Results

a. Human Resource Results

Figure 7.3-1
QPC Assessment - Crew's Perspective
Scale = 1 - 6 (6 = Strongly Agree)



groups; the night watchstanders and military personnel scored every category higher than the day watchstanders and civilian personnel, respectively over the last two surveys (with the exception of leadership). This will be addressed by the QMB at its annual review (Link 2.1). In addition, we have “contracted” with the district QPC to conduct several focused workshops that will assess individual components of the most recent survey.

The current trends over the last two unit JSS's are the continuing high acknowledgment by the crew that they know what is expected of them and the fact that everybody is focused on top notch quality output for our users. One of our AFI's noted by the JSS's was crew dissatisfaction with equipment quality (attributable to the many equipment modifications since the last JSS). Another AFI was individuals being recognized for their continued good performance (which was linked to an administrative lag that led to untimely performance recognition. This has since been addressed).

(1), (2) The overall measure of VTS Houston/Galveston employee well-being, satisfaction, and dissatisfaction (Link *Figures 7.3-1 and Figure 7.3-2*) are our annual District QPC Assessment (Link 1.2) and our annual unit Job Satisfaction Survey (JSS), which is administered 6 months later.

The average for the most recent QPC survey increased approximately 2.0% from the last survey, indicating increased employee satisfaction over the last four years on an annual basis. Our main employee groups are separated by section (day vs night) and billet (military vs civilian). The scoring breakdown for these groups is contained in *Figure 7.3-3* and *Figure 7.3-4*. The comparisons show there is a significant difference in the scores between the

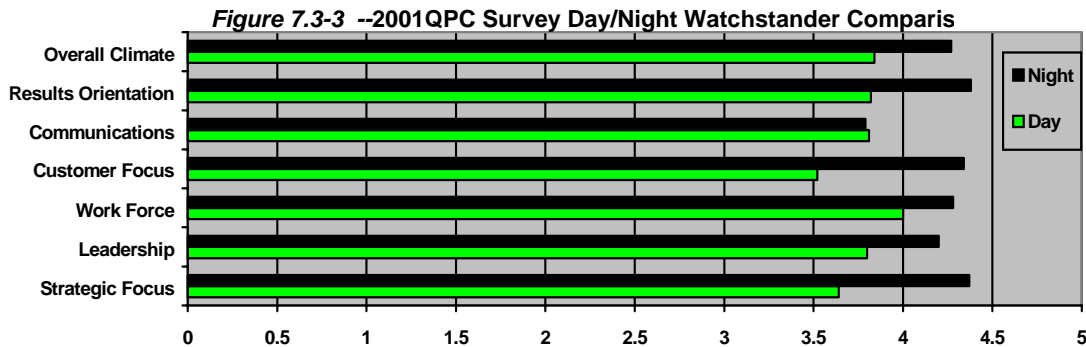
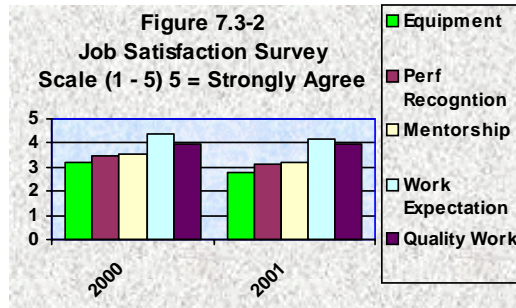
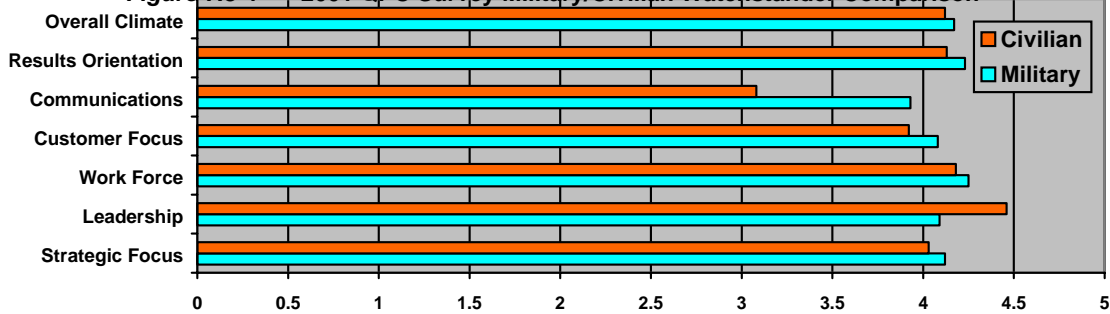


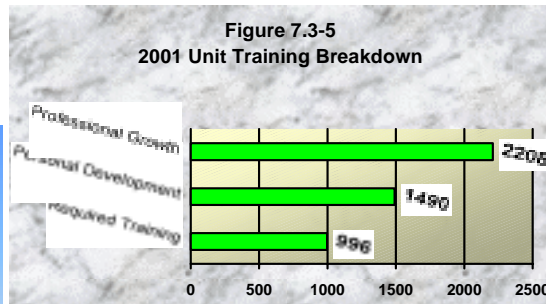
Figure 7.3-6 shows the breakdown of the Morale Fund spending for this year. Due to difficulties posed by the watch schedule, there is never an opportunity for all crewmembers to participate in morale events at the same time. We try to plan our unit events (Holiday, CG Day Picnic) to ensure that the same sections are not on watch ring these events. Section parties allow all sections to utilize morale funds on a quarterly basis. Morale fund expenditures benefit military and civilian alike, even though the unit receives no funds for civilian personnel.

Figure 7.3-4 -- 2001 QPC Survey Military/Civilian Watchstander Comparison

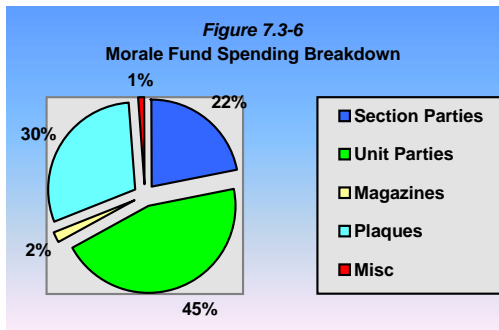


We ensure employees have every opportunity possible for both professional and personal growth (Link 5.2). *Figure 7.3-5* shows a breakdown of our training for the past year, which validates the Learning and Growth objective listed in our balanced scorecard (Link *Figure 4.1-1*). Other measures (Link *Figure 4.1-1*) include the number of personnel pursuing advanced education (5), the number of personnel completing advancement requirements (26) and the number of Human Relations/Civil Rights complaints (0).

**Figure 7.3-5
2001 Unit Training Breakdown**



**Figure 7.3-6
Morale Fund Spending Breakdown**



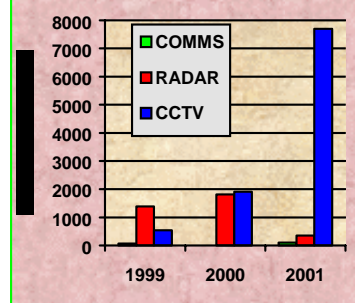
7.4 Organizational Effectiveness Results

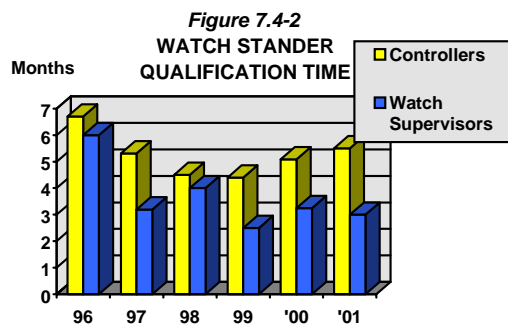
a. Operational Results

(1), (2) *Figure 7.2-1* indicated how we are meeting our key strategic goal reducing collisions, allisions, and groundings, which is in alignment with CG Performance Plan and the Eighth District TPP goals (Link 1.1, 2.2). Equipment downtime is reported in *Figure 7.4-1*. As discussed in section 7.2.(a), the new installation of the Galveston Radar in 2000 has had a significant decrease in downtime in 2001. Our current level of radar usage has been exceptional, thus our organizational strategy to minimize radar down time by 10% worked in achieving our equipment objective. However, the CCTV testing that VTS Houston/Galveston has completed has adversely affected our downtime in 2001. The data reflected in *Figure 7.4-1*, however, represent equipment downtime (i.e., unavailability) as well as equipment degradation (i.e., less than full operational availability). For example, instead of having two cameras at each site we have usually had just one. Despite that, contractor support for the maintenance of CCTV's has met all contractual requirements. (This is tracked on every ECR). Thus, we have made significant progress in achieving this measure of effectiveness and operational efficiency.

One measure of cycle time is our qualification time levels, which have shown a positive downward trend since 1996, enabling us to place new qualified watchstanders into the rotation sooner. The dynamic nature of VTS operations, coupled with historical and projected increases in traffic coordinated by controllers, demands a comprehensive, streamlined training program. *Figure 7.4-2* shows that qualification time has stabilized. We do not anticipate qualification time decreasing below 4

**Figure 7.4-1
Equipment Down-Time
(Hours/Year)**





months for controllers and 2 months for WS's, but we will continue to track this important statistic to ensure that our training program produces fully qualified watchstanders in the optimal amount of time.

b. Public Responsibility and Citizenship Results

VTS Houston/Galveston measures compliance with the CFRs, Rules of the Road, COTP Orders and Directives and other federal regulations by users by tracking violation forms that are completed when a user fails to comply with a specific safety-related requirement. *Figure 7.4-1* indicates a decrease in violations over the past 3 years. Through networking with the Houston and Galveston/Texas City Pilot

Offices and many of the area towing companies we were able to ensure near universal compliance with the VTSA's underlying regulatory framework and operational requirements. We have found that user education and uniform enforcement of regulations is the most effective method for compliance. We enforced the rules by sending formal Letters of Violations when necessary. To date in 2001 no letters have been necessary. All incidents were handled by watchstanders through proactive communications with mariners. This demonstrates more of a partnership relationship, between our customers and the VTS. These efforts support the unit's strategic objective of improving mobility along the ship channel and increasing accessibility to VTS services (Link *Figure 2.1-3*) while allowing us to minimize user violations and maintain our quality service to our customers/stakeholders/ partners and guarantee navigation safety throughout the Galveston Bay area.

